

# AMERICAN AGRICULTURIST.



*Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.*

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**A. B. ALLEN, Editor.**

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## STALL FEEDING COWS.

WE have recently noticed articles from English agricultural publications, which would go to prove the diminished quantity and quality of milk produced from stall-fed cows. The results are so largely at variance from anything which has fallen within our own observation, that we must be allowed to withhold our faith either in their accuracy or fairness. The conclusions reached are, that cows, which had been allowed to glean their own forage from a lean pasture, when put up in a yard where they were well supplied with fresh cut grass, gave but about two-thirds their former quantity of milk, which was of a quality so much inferior, as to yield but half the former aggregate quantity of butter. Such a result we do not question, but if so, the whole premises which gave such a conclusion have not been stated.

That there is a wide difference in the comparative value of the different kinds of grasses does not admit of doubt, even among those of the same species. Some contain much more nutriment than others, which have grown under other circumstances of

quality of soil, difference in moisture, &c. Nothing is better settled than that a crop of hay in some seasons is worth from 10 to 25 per cent. more for use, pound for pound, than in others; owing to excess of moisture, imperfect elaboration of the juices, and other circumstances. To such a difference between the cut herbage, and such as was cropped by the animals in the pastures, allowing it was of the same species, must be added, the probable difference of the kinds of grass. On old pastures, there are usually a large number of valuable minor grasses, which gradually intermix with the original ones sown, and which add much to their value as food for stock. In addition to this, a highly beneficial effect on the health and thrift of animals is produced, by their being enabled to procure a sufficient variety of food. This effect is more conspicuous perhaps in the sheep than in any other quadruped. For them a frequent change of pasture is essential to thrift, unless an extended range at all times enables them to glean what is best suited to their tastes and the various demands of the animal economy. Some plants are more highly charged with fatty matters; others with resinous; some saline; others with aromatic, bitter, and astringent principles. This variety, which if the animal be allowed to select from its own, and generally unerring instincts, not only yield their due proportion of nutriment, but when properly associated with others, and taken into the stomach at the proper time, their benefit is largely augmented. This is probably the true cause of the greater yield of milk of cows while pasturing than while stalled.

The true principle of soiling consists, in our opinion, in a combination of both pasture and stall or rack feeding, and where circumstances will justify it, both should be united at the same time. An abundance of succulent grasses, clover, pea-

vines, corn stalks, or vegetables in the yard, with free access to pure water, with a supply of salt, lime, ashes, and sulphur, with a daily ramble in the pasture for a few hours, where easily accessible, or if not, then as often as practicable, would undoubtedly most effectually secure the greatest quantity of rich milk.

#### THE PROSPECTS OF THE FARMERS OF THE UNITED STATES.

WE think we can discern in the causes of the present price of products, a reasonably prosperous condition for the agriculturists of the United States for some years to come. The crops throughout a considerable portion of Europe have been seriously diminished during the past season, and to such an extent as to have created a large demand for various articles of produce from our own country. Owing to a bad season, the wheat and other grain crops, not only of England, Scotland, and Ireland, but also on the continent, have been somewhat deficient; while the potato rot has cut short this main article of food from large masses of the population. The north of Europe, from which large supplies of grain are annually drawn, has partaken to no inconsiderable extent in a deficiency of crop, while the region of the Black Sea, which annually exports largely, has at least not augmented its production. The millions are to be fed abroad, and to no other country can they look for a full supply of food but to our own. Added to the unusual deficiency of the Eastern hemisphere, a rapidly growing demand has sprung up in Europe of late years for different items of American production, such as salted beef and pork, lard, lard oil, tallow, hides, butter, cheese, wool, &c., which has relieved our home market of all the surplus produce at remunerating prices. This demand is constantly augmenting, and the active, prosperous condition of foreign manufactures has rendered their continual importation a matter of absolute certainty.

The operation of our late tariff has, on the other hand, diverted no inconsiderable portion of our former agricultural classes into manufacturers, who have thus shifted sides, and become *consumers*, instead of *producers*. So long as this policy shall be persisted in, a healthy division of the industrial classes of our country will be maintained, and the ordinary products of our farmers will continue to command fair prices; while the increasing demand for various articles for their use, hitherto but little cultivated among us, will gradually induce their production to a large extent, and at profitable prices. Among these are silk, hemp, flax, indigo, &c.

There is in addition, every probability of some relaxation in the very stringent policy of Great Britain, in regard to the admission of some of our agricultural staples, such as wheat, flour, and potatoes, and especially in the almost free admission of maize, or Indian corn. Should this anticipation be realized, we may confidently rely on a large and permanent demand for these staples at such prices as will afford a most satisfactory return to the producer. The exhaustion of the ordinary supply in Europe, from the present deficiency, cannot be wholly obviated by another season's full crop.

The magazines of grain abroad, which are provisionally filled through successive years of excess of production, will have been nearly or quite exhausted before the next harvest, and the minimum of price then will not have been reached, till several good crops have been secured. Add to this, population in Europe is rapidly multiplying under the favoring influences of universal peace; and it has in many sections already reached that point, when agriculture, in the present state of its science and practice, is barely sufficient to enable production to meet the demands of the citizens now extensively engaged in manufactures, commerce, and the various arts.

To the inhabitants of the west and southwestern States of the Union, an additional cause of remuneration will be found in the increasing facilities and diminished rates for conveying their products to market. New and spacious avenues are opening in various directions, by which their produce will find a direct and economical transmission to the large eastern markets. Among these are the Wabash canal, already navigable some 200 miles, but soon to be completed from the permanently navigable waters of that river to Lake Erie, some 300 miles; the Maumee canal, connecting Cincinnati and Lake Erie, which, with the former, are direct highways for western Ohio, and nearly all of Indiana, Kentucky, and Tennessee, and a part of Arkansas and Alabama; the Illinois canal, to be finished within the present year, and capable of yielding similar facilities to Illinois, Iowa, and Missouri.

Railroads, too, are starting into life in different directions in the west, and opening their iron thoroughfares for the accommodation of our western farmers, who thus have facilities for the transmission of various perishable articles to distant markets, where they can arrive uninjured, and find a profitable sale, which the hitherto tardy means of conveyance rendered impossible.

Under all the circumstances of the prospect before us, we may confidently say to our farmers, without some material and adverse policy in the administration of our own national affairs, your prospects are bright for the immediate future. Our monetary and industrial system is in a most healthy condition; reason and common sense have resumed their reign throughout the country; the legitimate avenues of agriculture, foreign and domestic commerce, manufactures, and the various arts, are all appropriately filled, and in successful prosecution. It is in the power of the agriculturists of the country to keep them where they are. The balance of power is with you. If true to your own interests, and you rigidly adhere to our present wise system, a long and bright career of prosperity is before you. Your destiny is in your own hands; and it is for you to watch carefully the administration of public affairs, and see to it that no false theoretical principles of government, no rampant or unhallowed ambition, whether national or individual, be permitted to thrust disorder into our present beneficent system, and snatch from you the legitimate fruits of your own skill and industry—lay your plans at once for an increased production in every department of your farming opera-



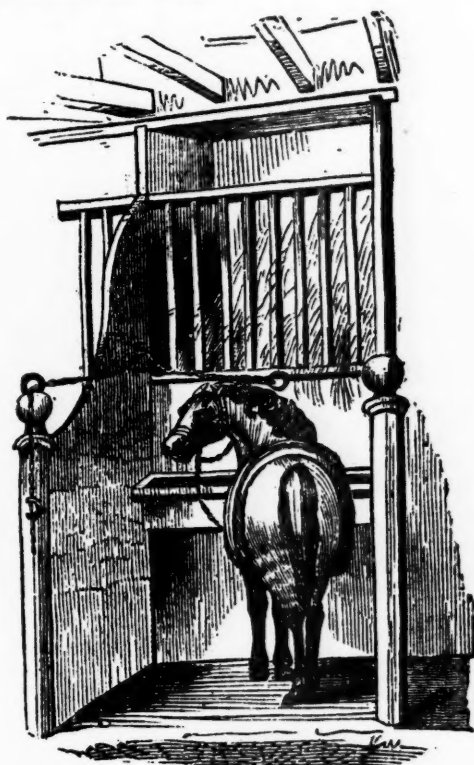
tions, not by attempting the cultivation of more acres than you can profitably attend to, but by enriching, and rendering more productive by careful tillage, what you now have under management. Introduce the best systems of husbandry into your practice, the best seeds and the best implements; carefully harvest and lay up beyond the risk of injury or waste, your surplus crops, and hold them for the best probable market; avoid running in debt, and pay such as you have already contracted. With the adoption of such a system rigidly adhered to, the expiration of the ensuing five years may see you the most prosperous class within the Union, if you are not decidedly so at this present moment.

#### THE STABLE.—No. 7.

*Vices.*—In this No. we shall speak only of those vices which are exhibited in the stable (the vices of work and of the road will claim a separate number), which are biting and kicking. It is true these are also seen out of the stable, but the danger arising from them is usually only in the stable. Many horses will only bite and kick in the stable, although they will threaten to do so out of it.

To the groom, and the gentlemen who drive their own horses, it is important that the horse should, as to these vices, be safe in himself, or that the person controlling him should have the power to make him harmless. Much, in this respect, depends on the groom, or the gentleman himself. His bad habits and vices, or his good temper and prudence, will have much to do with those of the horse. A horse of great sagacity and high spirit, in the hands of an ill-tempered, violent, and brutal groom, might, and very likely would, become vicious in some respect. Indeed all those horses that are moderately vicious only as biters, are all, or nearly all, made so by violence and bad management. They are generally teased into the habit. It is natural that a horse should retaliate abuse, and when pinched and teased they know it, and as they do not understand a joke, make a serious return for the fun of the groom. Such horses, however, never do harm but to repay abuse. Hence whipping does no good, and only makes them more violent and disposed to evil. Indeed it may be questioned if, for the vices of biting and kicking, a horse ever is improved by punishment. For casual misconduct only, will correction answer a good purpose. Habitual vices can only be overcome by kindness, and if this will not reach them, caution and the avoidance of danger are the only means of obviating the difficulty. With vices of temper, punishment only makes bad worse, and the horse will in the end be apt to become ferocious. Horses will often put on the show of vice, will threaten to bite and to kick, will rear, and raise the hind foot, and pretend to strike with the fore, and champ their teeth, and yet it is all play. Mares are quite apt to do this in gentlemen's or coaching stables. If teased they may bite, but will only threaten if not teased, and indeed seem to threaten sometimes to avoid being teased, and at others to command attention and secure petting. Such horses should never be minded. Let them alone and they will do no harm. It is an evidence of spirit, and they have generally much energy and bottom.

Horses are not unfrequently kickers and biters only with other horses, and for this mares are more remarkable than horses. A vice of this kind can never be cured. Punish for it, and the punishment is forgotten in an hour, and the vice again indulged. With some horses it becomes a mania. They will slip their halters when the stable is locked up, and go round to the other horses, and bite and kick them unmercifully. Again, they will kick or bite strange or unfavorable horses, and not known ones. For all this there is no remedy but separation. The horse that slips or breaks his halter to indulge his passion must be kept alone, or put into a close box stall; and those who dislike strangers must be worked and lie only with constant companions. Some horses will only kick and bite when brought to the shop to be shod, and then are furious. They fear a crowd, and have doubtless learned this from the performance of some operation, as breaking, castration, or docking and pricking, which has required several persons to do it. They recollect the pain inflicted formerly by a crowd, and fear it again. It will be found that they cannot be shod in the smithy; yet the smith may go alone to the stable and shoe them in quietness without danger.



STALL FOR A BITER.—FIG. 8.

Our cut this month illustrates a method of managing a horse that is a vicious biter. For many reasons it is often desirable to keep a biter. Generally they are the best of horses, and have no other vice. Not uncommonly, under the management of a single groom, they are kind and affectionate, but to strangers are savage and dangerous. Of course, they are never to be trusted. If they cannot be rendered harmless, they are worse than useless; indeed vice is the worst kind of worthlessness, for worthlessness has its degrees, as it may be harmless or dangerous. Our cut shows a method of

making a biter harmless in the stable. A cord is fastened to the halter head, and passes through the ring, or staple, or hole into which the halter stale, or strap, is fastened, and passes from thence to another at the end of the stall division post in the rear of the horse. Here it is fastened, that it may not be drawn through. When the groom is to enter the stall, he pulls the cord, and draws the horse's head up to the ring to which the halter is fastened, and then the cord is tied. His head no longer at liberty, the horse is no longer dangerous. This method is cheap, simple, and easily adopted. A hole in the stall partition, when of boards, and one in the post of the partition, which anybody may bore with an auger, will answer the purpose to pass the cord through. This method is convenient and cheap. When the horse is taken out without the halter there is no trouble in it, for it costs as much trouble to take off the halter without the safety-cord as with it. If the halter be left on the horse, it is as easy to untie the cord from the halter as to untie the halter; and it may be made for a few pennies (or shillings if made with rings) at most.

Among biters, those which threaten are in general but little dangerous, and are much less so than those which give no warning. The vice seems to have all degrees; and the worst is that which shows itself in the horse who gives no indication of his vice. If such a biter be *timid* he will wait until the groom is within reach, dart at him, bite him severely, and then fly to the other side of the stall, and crouch or tremble in every fibre. Having learned that punishment follows the biting, he seems only to fear it when he has incurred the penalty. He may be whipped severely, and in an hour he will repeat the biting. Here punishment will do no good. Let the groom when he enters the stall assume a resolute air, and threaten, and the timid biter is overawed, and so long as the groom keeps up his hostile air he is safe. This is the better course, and punishment should not be resorted to. To threaten it will deter, but to inflict it after the biting will not prevent a recurrence.

Where the horse is savage and bold, and will, if punished, resist, he is the most dangerous of all biters. He of course does not warn, but will dash at one even when he knows he is watched, and not only bite, but do it repeatedly, and retain the grip of his jaws, and not unfrequently use his feet, and trample the object of his violence under his feet. This is the mode in which ferocious stallions kill their grooms, and it has occasionally occurred with geldings.

Nothing will cure the determined biter. Caution alone will render him safe. He should be managed by one person. When the groom goes up to him it should be in a decided manner, boldly, and as if he was to command or overpower the horse. He should speak sternly to him, and keep his eye on him. If a bold horse, a whip should be used, and a blow threatened, unless with those in whom it would provoke retaliation. If it be necessary to do anything about the horse, it will be necessary to tie his head, or muzzle him. When the groom leaves the stall, he should back the horse to the length of the halter, and then step back out of the stall, which he may do safely.

All this will answer with horses that fear punishment; but with horses that are bold, and will fight if corrected, nothing but a head-cord to first fasten their heads will make them safe; and the cord must be relied on wholly. A muzzle will hinder the horse from biting, but it will not prevent him from striking; and tying by the head alone will answer.

With all horses that bite, caution and kindness are the only means of safety. Kindness may reclaim the playful or moderate biter; caution alone will make harmless the confirmed, savage, and ferocious one.

#### BACHELDER'S CORN-PLANTER.

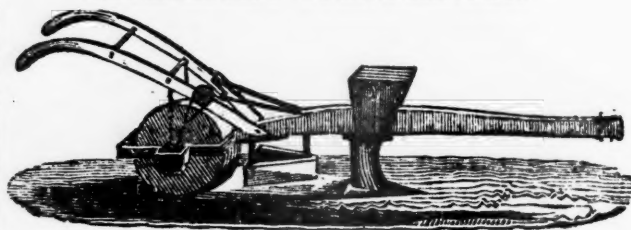


FIG. 9.

This is the best machine we have yet seen for planting corn. The seed is put into the hopper above the beam, and as the planter moves along, the share below opens the furrow; the corn is then dropped by arms moved by a crank. These arms have holes in the end of them, and as they play back and forth from under the hopper, receive from three to five grains in each hole, and drop the corn through a perpendicular tube attached to the share, into the drill made by it. A triangular iron follows and covers the corn, and the roller passes over and presses it down. The arms are made to drop the corn nearer or farther apart by different sized wheels fastened on the crank, moving the arms quicker or slower as required. Those usually made here drop from two feet to four feet apart, as wished. The machine requires a small horse or mule to draw it, and with a boy to tend it and drive, will plant two to four acres per day, according to the width of the rows apart. The price is \$16. It is kept at our warehouse.

#### PATENT SPRING TONGUE BUCKLE.

We have been shown one of these, and we ask attention to it for the purpose of both approval and condemnation. In principle it is a modification only of the common buckle; in the common one the draught is on the *tongue*, and the *cross-bar* of the buckle on which the tongue rests at its moving end; the trace is curved at the point where the tongue enters it, and the draught is oblique both on the tongue and the cross-bar; this arrangement spreads the draught over the whole of the trace, and the tongue and cross-bar both are employed in the draught. The buckle will sustain greater draught on account of the obliquity of the draught. The spring buckle places the tongue at right angles to the trace, and there is no pressure on the cross-bar from the trace *itself*, and only from the tongue. In all this it is *inferior* to the old buckle, and in use will destroy traces faster far than the common one. Then for traces or great draught it is worthless. The tongue is moved by a spring, and enters the strap



right angles. Here is its merit. In harness where straps sustain no draught, or a very slight one, this buckle is to be commended; to move the strap it is only necessary to move the tongue, and the strap is free. In the common buckle it is often difficult to move the strap to free the tongue, and in that respect the spring buckle is a decided improvement; and this applies more strikingly to traces than any other part of the harness; but even in this respect the spring buckle is not equal to Lawrence's lever buckle, for the trace may be more readily moved in it than in the former. We fear that the spring tongue buckle cannot be made small enough (on account of its complexity) to be used on harnesses at other points than the traces. If so, it is valueless for all purposes about harnesses. If it can be made small enough to answer for the purpose of fastening straps where there is no draught, or but a slight one, and a small buckle is required, it is a valuable improvement. The same objection which applies to the common buckle does to this, viz.: when the trace or strap is moved, it must be moved from *hole to hole*, and these cannot be near each other, for then the trace or strap would be too much weakened. Here Lawrence's buckle is eminently superior, as no holes are necessary, and the trace or strap is held by pressure, produced by the leverage of its curvature, and can be moved as much or little as may be wished.

Where there is no draught the spring buckle is superior to the common buckle; where there is draught no buckle equals Lawrence's tongueless one.

#### GROWTH OF HAY.

Our correspondent A. R. D. (see last No., page 30), stated the fact, in his article, of a meadow in New Jersey, which was so much affected by drought, that it gave no grass at the usual time of mowing; but by keeping out the cattle, the grass took a start after the late rains commenced, and yielded two tons of hay per acre, which was cut and secured in November.

The fact noticed is the same as is annually repeated among the best farmers in Kentucky and Tennessee, and has been incorporated as a regular practice or system with them. The first crop of the fine blue-grass pastures, the glory of Kentucky, matures, and is fed off by cattle in the early part of the season, after which the pastures are carefully closed against all intruders. The late summer and early fall rains again start the grass and give it a luxuriant growth. This second growth, owing to the difference of climate, is allowed to remain on the ground for winter fodder, and is then fed off by the cattle, while, at the north, it would have been necessary to cut and house it. Irrigation, or copious rains, with abundant manure, and a prolonged autumn, would at all times secure this result in New Jersey. Owing to the excessive drought of the early part of the season, the grass did not grow; the soil was not exhausted by its accustomed crop, and its hoarded strength was fully equivalent to a large coating of manure. The soil was thoroughly and deeply warmed by the long continued dry and hot weather, and the frequent and abundant warm showers that continued from the latter part of August till November, should have produced, as they everywhere did, abundant crops of grass,

though the instance mentioned is the only one we have noticed as being reserved for hay. We do not conceive there will be any effect on the next year's crop, whether the present one were cut earlier or later; the aggregate taken off in the course of the season, alone affecting the quality of soil and its capability for subsequent production. We should prefer that some of the dead grass were left as a slight protection to the roots against frost; but the latter seldom does serious injury to the roots of any of the grasses, unless accompanied by standing water, when it is said to winter kill.

The remaining part of the article our correspondent has pretty much answered himself. We doubt the full dimensions of improvements communicated to the late Commissioner of Patents, and would much sooner credit a series of well authenticated facts in support of it, than an isolated instance, or any conjectures as to its possibility. That carbonaceous matter is added to a soil, which is kept in grass, does not admit of doubt. The leaves absorb carbonic acid from the atmosphere in large quantities, and carry no inconsiderable portion of it into the roots, where it accumulates in the soil, and nitrogen may possibly be added in sufficient quantity to maintain or even increase the standard fertility, by absorbing ammonia or nitric acid from the air and rains. But if the crop of grass be annually carried off, it is as certain as light, that there is a diminution of the salts; and the mineral or inorganic portions of the soil are gradually becoming exhausted, and if not replaced, they will sooner or later be so used up as to admit of no profitable returns.

The reason of improvement going forward more rapidly when the seed is first allowed to mature, is simply, that in harvesting, much of it is scattered on the ground, where it replaces the old stock, and fills up every vacant space, by which more agents are at work in drawing carbonic acid from the air, and storing it up in the roots, where it constitutes a permanent addition to the fertility of the soil.

**BENEFIT OF AGRICULTURAL PUBLICATIONS.**—We have paid out to farmers, principally of this State, over six thousand dollars in money the past year, for improved stock and seeds, most of which has gone South. Now, if it were not for our periodical, through the pages of which a knowledge of these things is made known, we could not thus benefit the farmer. Our business in these matters has merely commenced. What advantages, then, may not the farmer expect to derive from a continuance of it? We probably do not make one-tenth part of the purchases which our paper influences—perhaps not even one-twentieth; and this amount is only one small item of the benefits conferred upon farmers by agricultural publications. Think of the improved implements which they help to form; of the improved system of cultivation; of the introduction of new plants, seeds, and fruits: new fertilizers, and a superior method of applying them; and above all, the great amount of instruction to be found in their pages, and the constant endeavor to enlighten the minds and elevate the condition of the producing class—the pride, the glory, and the bulwark of the country. It is a standing wonder that every farm-house has not its agricultural periodical.

**Mr. Norton's Letters.—No. 16.**

BEFORE this time, in the New England and the Northern States generally, the ground is probably frozen, and perhaps covered with snow. Here, I have as yet seen no ice more than an eighth of an inch in thickness. For the last four or five days there has been no frost at all. It must not be supposed that this is an enviable state of things; for, in place of our cold, clear, bracing atmosphere, we here have day after day of rain; not a right down pour, but constant, gloomy, ceaseless dripping. The roads are hard, it is true, but are covered with a layer of mud, having the consistency of a very thick soup. One soon learns here to despise an umbrella entirely, or to make it an inseparable companion.

In the ability to plow during the whole winter, excepting perhaps a week or ten days in each season, the Scotch farmers have a great advantage over us. They are not forced to hurry through all the operations of seed time in a few weeks. This disadvantage under which we labor, is in some degree balanced by the fact, that our climate is much less changeable, so that when we do begin, we are able to go on almost without interruption.

The mild winters of this country also permit the farmer to feed his turnips off by sheep in the field. He thus saves all the expense of lifting and storing, while the land receives a good coating of manure at the same time. Some light soils are also greatly benefited by the consolidation which is produced by the constant passing to and fro of the sheep over the small areas in which they are successively confined. As we cannot feed off turnips in the field, we cannot grow them in such very large quantities as are grown in this country. It would be an immense undertaking to store the produce of 180 or 200 acres at from 20 to 30 tons of turnips per acre. At the same time, the fact is unquestionable, that we may most profitably grow roots to a far greater extent than at present.

Though Scottish agriculture, in its best features, decidedly deserves all the praise which has been lavished upon it, I am inclined, on looking at the whole country, to take courage respecting ourselves. The highly cultivated parts of Scotland, compared with the whole extent of arable land, are found to bear a very small proportion to the indifferently cultivated tracts. When the high roads are left the farming grows bad in almost every case. Traveling during the present year, by railway between Edinburgh and Glasgow, by coach between Edinburgh and Dumfries, also between Edinburgh and Carlisle and Newcastle, I have passed over great tracts of country, as badly cultivated, judging from appearance, as almost any district in our Northern States. When I see these things even in Scotland, I take courage, and hope that we may rival the Scottish farmers sooner than they expect. I do hope and believe, that our farmers, the owners and occupiers of their own land, will more readily try new methods, will read more, and not being wedded by the practice of so many ages to bad habits of cultivation, will give up such habits a little more readily.

I have, in several instances, taken opportunities in responding to toasts at public dinners, to tell the

Scotch farmers to bestir themselves; that the people of the United States, were accustomed to carry through without hesitation everything which we seriously believed was for our profit; and that unless they made use of Prof. Johnston and every means in their power for improvement, we should soon be upon their heels; nay, that it might in process of time come to pass, that they would be sending their young men to us to *learn farming*. Of course, I do not expect this last thing to happen soon; but there is no setting any limits to what we may do if we go resolutely to work.

Our Canadian neighbors are waking up. A young gentleman named Gilmour, who has a farm near Toronto, has just arrived here with the purpose of spending a year in Prof. Johnston's laboratory. I have commenced with him some investigations upon Indian corn, but shall be obliged soon to leave it in his hands, under Prof. Johnston's direction. We see, therefore, that we are to have rivals on our side of the Atlantic; such a strife will be for the good of both parties; we need fear no defeat if we fully improve our advantages.

Edinburgh, Dec. 1, 1845. JOHN P. NORTON.

**MERINO SHEEP.**

I OBSERVED in a recent number of the *Agriculturist*, a statement in relation to the extraordinary merits of the Rambouillet Merinos. No definite statements are made in relation to the weight or quality of their fleeces, as proved by the scales or the wool measure. I have seen no notice in your paper (except the publication of their pedigrees), of a flock of sheep owned in this county, the qualities of which have been rigorously submitted to both of the above tests, the results of which I think well worthy of public attention. I allude to the flock of Mr. Henry S. Randall, of Cortlandville.

First, as to the *weight of fleece*. Mr. R.'s full bloods averaged over 6 lbs. of well washed wool, including young sheep. Some of the ewes went as high as from 8 to 9 lbs., and one the extraordinary weight of 9 lbs. 2 oz. A three year old ram sheared 13 lbs. 8 oz.; a yearling (the one which received the first premium at the State show at Pokeepsie), 8 lbs. 8 oz. These were all single year's fleeces. The fleeces were weighed in fine balance scales; were sheared, and put in the scales in the presence of two disinterested men of high respectability, and each made separate memoranda of each fleece. I do not know that I violate any confidence in stating that both of these gentlemen have made affidavits to the above facts. Mr. R. has objected in my hearing to the publication of the above fact, and stated that the affidavits were only made in consequence of his expectation of being called upon to show his sheep, when such tests would be required. But I view the question in a different light. I believe statements of this kind have been in some instances submitted to the public, when if the solemnity of an oath had been required, and from disinterested persons, more care, to say the least of it, would have been taken in ascertaining the facts. The State Society, in giving premiums on products, requires their amount per acre to be verified by an oath. No man should be too proud to thus substantiate his statements. As long as there are knaves in the world, let the honest man increase.



the means of their detection, by voluntarily taking a course, which the former might think it unsafe to follow.

Secondly, as to the *quality of the wool*. It is no great gain to get heavy fleeces, if the quality is entirely, or to a great extent, sacrificed. Dr. Emmons, our State Geologist, visited Mr. R. last summer, and selected various samples from his wool. These were carefully measured and their strength tested in comparison with wool from other celebrated flocks, by accurate instruments. The result, with drawings of the wool, was given in the July, August, and September numbers of the American Quarterly Journal of Agriculture for 1845. The wool of Mr. R.'s prize ram above alluded to, decidedly exceeded that of Grandee, the best ram of the Rambouillet importation, and supported a greater weight, or, in other words, was stronger in proportion to its diameter. It as far exceeded various rams of early importation. Mr. R. has many ewes of equal quality. Like the Rambouillets, these sheep are of large and fine carcase: but unlike them, are short in the leg, and the ends of the wool are usually coated with a dark gum. It is barely *tipped* with the gum, say for one-eighth of an inch. Within that, and to the skin, the wool is a glossy white, and freer from hard gum, I think, than the Rambouillet. This outer crust is a great protection from rain and cold, and does no hurt, as it readily scours off in the process of manufacturing.

I have made these remarks in justice to a flock of which, as a citizen of Cortland county, I feel proud, not having seen any particular description of them hitherto in the Agriculturist. L.

Cortlandville, Jan. 5, 1846.

#### UNDER DRAINING.

THE advancement of agriculture within the few last years in this country, the high price of farming lands, and the value of products, and cheapness of labor within convenient distances of our larger markets, all justify the commencement of an intelligent system of draining, on such lands as require it. This system has for many years been introduced and largely practised in England and in Scotland, and it has resulted in the most signal success. The plan first adopted, was, to excavate the land in parallel lines, at intervals of 16 to 25 feet, to the depth of 2 to 2½ feet, forming a slightly inclined plane on the bottom, which was from 3 to 6 inches wide, and gradually enlarging as it approached the surface. The narrowest drains were arched with inverted turf and clay, at a height sufficient to allow of the requisite space at the bottom for the escape of whatever water might filter through the soil. Others were formed with continuous arched tiles laid on the bottom, forming an uninterrupted conductor. Larger ditches were filled with rubble stone, and in some instances brush, to a sufficient depth, and then covered with soil. In all cases the smaller ones communicated by their outlets with a large open drain, which carried the water beyond reach. These drains, with their required coverings, are always below the reach of the plow, thus leaving the whole surface of the land open and unobstructed to cultivation.

Two recent improvements have been introduced which materially diminish the expense, while they

enhance the benefits of the system. They consist in sinking the drain to 4 feet; and using baked clay or tile pipes 4 to 6 inches in diameter, and 12 to 18 inches in length, connected by allowing the descending end to enter the next below it as a socket. The trifling opening thus afforded at each joint, with small holes perforating the top of the tiles, is found to be sufficient to admit all the water which falls into the drain; while the increased depth at which the drainage takes place, draws the water from a much greater distance. With the depth indicated, it has been found that the drains, instead of being required once in 16 to 25 feet, may be placed at intervals of 40 to 50, and accomplish the object with equal success, *and in less time*. The expense of the former plan was from \$20 to \$30 per acre, while the last is only from \$12 to \$18.

The advantages of under draining are numerous and important. I will briefly state some of them. They take away all the surplus water which exists in heavy or tenacious soils, which, in wet seasons, are a serious impediment to the successful growth and perfection of vegetation; thus always ensuring a full crop, when frequently not one-fourth of a crop is matured on similar undrained soils. They allow of early cultivation in spring, and late in autumn, by furnishing a dry, warm soil, which before would not admit of cultivation except in the warm part of the season; thus enabling the farmer to grow a greater variety of products where only a few were adapted to the soil before, and to these it gave several weeks' additional growth. It saves all the trouble and waste of surface drains, and open furrows, which require that much of the land be left almost in an unproductive state, to serve as conductors of the surplus surface water. The rains falling on the convex surfaces of the lands, run off rapidly into the furrows, and not only prevent the benefit to the soil which would result from its absorption, but they carry with them much of the fine soil, which is thus allowed to waste.

This last is an item of incalculable importance to the farmer. Rains are charged with some of the most important elements of nutrition to plants, and especially contain considerable proportions of carbonic acid and ammonia. If these be permitted to percolate through the soil, the roots of the plants, or, in their absence, the elements of the soil itself, absorb and form permanent combinations with them, by which they are held till the demands of vegetation unlock them for their own use. Air is also highly charged with the elements of nutrition, and it is necessary that this should penetrate through every portion of the soil where the fibres of the roots exist. Soils which are saturated with water, do not admit of any air, unless the small proportion combined with the water; and from all such, this vital adjunct of vegetation is excluded. By draining off all the surplus moisture for a distance of 3 feet below the surface, innumerable minute fissures are everywhere opened, through which the water passes, and these are immediately filled by atmospheric air, which thus traverses the soil in every direction, imparting to the rootlets of the plants their contained aliment, or storing up their useful properties with the soil for future use, and facilitating those necessary changes, modifications, and recombinations in the elements of the

soil, which are essential to vegetable production. The porosity of the land thus secured, facilitates the admission and escape of heat, which last condition is of the utmost consequence in promoting the deposition of dews.

The dense mass of saturated soil is impervious to air, and remains cold and clammy. By draining it below the soil, the warm rains penetrate the entire mass, and there diffuse their genial temperature to the roots. Immediately pressing after these, the warm air rushes in, and supplies its portion of augmented heat to the land. Porous soils thus readily imbibe heat, and they as readily part with it; every portion of their open surfaces radiating it, when the air in contact with them is below their own temperature. This condition is precisely what is adapted to secure the deposit of the dews, so refreshing, and during a season of drought, so absolutely vital to the progress of vegetation. Dew can only be found on surfaces which are below the temperature of the surrounding air, and rapid radiation of the heat imbibed during the warmth of a summer's day, is necessary to secure it in sufficient profusion for the demands of luxuriant vegetation, in the absence of frequent showers.

An insensible deposit of moisture, precisely analogous to dew, is constantly going forward in deep, rich, porous soils. Wherever the air penetrates them at a higher temperature than the soils themselves possess, it not only imparts to them a portion of its excess of heat, but with it also, so much of its combined moisture as its thus lessened capacity for retaining latent heat compels it to part with. To the reflecting mind, imbued with even the first principles of science, these considerations will be justly deemed as of the highest consequence to the rapid and luxuriant growth, and full development of vegetable life.

Another essential benefit, derivable from undrained lands, consists in the advantageous use which can be made of the subsoil plow. If there be no escape for the moisture, which may have settled below the surface, the subsoil plow has been found to be injurious rather than beneficial. By loosening the earth it admits a larger deposit of water, which requires a longer time for evaporation and insensible drainage to discharge. When the water escapes freely, however, the use of the subsoil plow is attended with the most beneficial results. The broken earth, thus pulverized to a much greater depth, and incorporated with the descending particles of vegetable sustenance, affords an enlarged range for the roots of plants, and in proportion to its extent, furnishes them with additional means of growth. The farmer thus has a means of augmenting his soil and its capacity for production, wholly independent of increasing his superficial acres; for with most crops it matters not in the quantity of their production, whether he owns and cultivates 100 acres of soil, one foot deep, or 200 acres of soil, half a foot in depth. With the latter, however, he has to provide twice the capital in the first purchase, is at twice the cost in fencing, planting, and tillage, and pays twice the taxes as with the former. In a season of drought, the undrained and subsoiled fields have the further advantage of security and steady development, from the roots penetrating far below the scorching effects of

the sun, and having the benefit of the ascending moisture from below, from their remotest depth to the surface, which frequently secures to them a large yield, while all around is parched and withered.

A more enlarged and general, or what may justly be termed, a patriotic or philanthropic view of this system, will readily detect considerations of great moment, in the general healthfulness of climate which would result from the drainage of large masses of land, which are now saturated, or in many instances covered with stagnant waters, and which are suffered to pollute the atmosphere by their pestilent exhalations.

It is to be hoped that some of our enterprising and wealthy agriculturists will embark in this system, with what light is now shed upon it by European experience, and give to the American public the full benefit of their experiments. And should these be successful, American ingenuity should be stimulated to the perfecting of such machinery as would materially reduce the cost of excavating, and the manufacture of pipes in the most approved, economical and durable manner. For this object, or even for the purpose of introducing the system, I would suggest that our State Agricultural Society, the American Institute, or other patriotic associations, at once offer suitable rewards for the best machines for making ditches, and for the most successful examples of underdraining.

R. L. ALLEN.

*Buffalo, Oct. 30, 1845.*

P. S. I understand several of our enterprising citizens have made a beginning in underdraining, and I trust for the good of their brethren in the same honorable craft, they will give to the public the results of their experiments.

THE principal part of the following articles on fencing appeared originally in the *South Carolinian*, and are now copied out with emendations by the distinguished writer for our periodical. Greatly lessening the number of fences, and obliging people to keep up their domestic animals, or if they range abroad furnish shepherds to take good care of them, and see that they injure no man, is a reform which we have dearly at heart. We bespeak for these articles the earnest attention of our readers. We consider them among the most valuable and important that have yet appeared in the *Agriculturist*.

#### FENCING—No. 1.

THE period has not yet arrived when the absolute want of timber forces a general resort to some substitute for fencing. In some parts of the State, however, the timber is gone, and plank is purchased and used. In other parts it is becoming scarce, and great economy is required, while everybody knows that the time will come when rail fences will be no more. The common feeling, however, is to let the future take care of itself. Sheer necessity alone can introduce improvement in anything connected with our Agriculture. The planter belongs to the genus *Terrapin*, and can seldom be made to move until the fire is felt on his back. I never, therefore, undertake to recommend anything to planters for their benefit in fu-



turo, unless it has also the strongest claim to attention *in presenti*.

I imagine that few persons have ever undertaken to count up the cost of the fencing in this State to compare it with the benefit derived. There are probably 250,000 white persons in South Carolina engaged in agriculture, making, at the usual average of five to each, 50,000 families, owning each one or more plantations or farms. I should think there were nearer 100,000 than 50,000 settlements in the State. The length of fencing on these places varies. Few or none, however, have less than half a mile, while I know some whose fences are in all over thirty miles in length. The average length cannot be less than two miles to each family, or 100,000 miles in the whole State. This is a moderate estimate I believe. Now it requires between eight and nine thousand rails to make a good fence of one mile. These rails are worth on an average one dollar a hundred, put up. But allowing for fences not good, and rails put up at a cheaper rate, we may safely estimate the value of every mile of fence at \$50. At this rate the whole fencing in South Carolina is worth \$5,000,000. If any one should think this a high estimate, let him reflect on all the items, and also remember that I have not taken into consideration the plank fences. There are many thousands of miles of such fencing in the State, out of the towns, and it costs at the very least \$200 per mile—often twice as much.

Now the interest on this investment of \$5,000,000 in fences I regard as equal to \$1,000,000, or 20 per cent. per annum. The legal rate of interest is seven per cent. But there is a sinking of capital in fences equal to at least 13 per cent. per annum. At the end of five years rail fences generally require three or four new rails, and the same every other year thereafter for ever. Thus the duration of a fence does not average more than seven years, or at most seven and a half, and the annual decay is fully 13 per cent.

Now for what purpose do we make this dead investment of \$5,000,000, and incur this annual loss of \$1,000,000? For none other than to keep cattle, hogs, and sheep out of our fields. Mules and horses we usually keep out by enclosing them. The question then is, whether it would not be cheaper, and in every way better, to enclose the cattle, hogs, and sheep also? It may be the animals we guard against are worth more than our fences; but I am inclined to doubt it. I keep a large stock, and raise an abundance of pork and beef for my wants; and though I have scarcely a cross fence on my land, my fences cost me more than I could sell my stock for. Let every planter make the calculation for himself. Be that as it may, it is far more doubtful whether the interest yielded by the stock is equal to that lost on the fencing.

Let every one calculate here again,—for the result might not satisfy all of the advantage of keeping stock enclosed, in preference to enclosing our fields,—if the mere expense of making and repairing fences would of itself raise and fatten our meat. But what is the actual benefit that we derive, after all, from fencing? The benefit of the range for our stock. And what do we gain by that? Razor-back hogs, and sway-back cattle, and sheep that

dogs will hardly eat after killing. I was going to say that the sole advantage of our ranges was, that it kept our stock alive and breathing for two-thirds of the year; but it does not do that. Of 100 hogs turned into the range without feed, how many would come into the pen for pork? I am always rejoiced to get back three-fourths, after all the feeding and attention I can bestow. I do not think it would be hard to show that this range, which is all we get for our annual outlay of \$1,000,000, is in most parts of the State rather a disadvantage than an advantage. I have always thought I had as good a range as any in the State for my stock, in every point of view; yet after much reflection, calculation, and sufficient *experiment*, I have gradually brought a large portion of the stock into lots and pens, and shall soon have all enclosed. I do not believe there is an individual in South Carolina who would not profit by the system, if he had, nevertheless, as I have, to keep up all his fences against his neighbors. His profits would of course be vastly increased if he could dispense with his fencing. Has any one ever actually counted the cost of fattening a hog taken from the range? I have done it, and have known others do it. It very rarely happens that the corn he eats would not buy more pork than he will turn out. Let our hog breeders try this generally next year. But we usually give them the run of the pea-field, which saves corn in fattening, it will be said. Let it be considered whether more time is not required to repair fences annually than would be taken up in gathering the peas the hog will eat, or in making so much more corn. Besides, many hogs die of eating peas; and when fat and wild in the pea-field, so that they cannot be regularly called up to be counted, how many are always lost by theft? As to cattle, I admit that if we enclose them we must diminish the number some keep, especially in the low country. But of what use to us are our herds of lean kine, that give little milk, butter, or beef? One well-bred and well-fed cow or steer is worth as much as ten of them: so of sheep. When, however, large gangs of either are kept, they must have shepherds, and these can keep them from the fields even were there no fences.

But I have made this article long enough, and will break off here.

I have more to say, and will, with your permission, continue the subject in another number.

South Carolina, Jan'y, 1846.

COKE.

**CURING MEAT.**—Mr. Canfield wishes us to add to his article on this subject, page 20 of our last No., that the sulphate of potash is a salt which does not readily dissolve in cold water, and therefore, when pure sulphate of potash is used for curing meat, it should be pounded and dissolved in water before it is put into brine along with common salt.

**SALTING SHAD.**—The season for this delicious fish is fast approaching at the south, and will soon open at the north. As soon as they are caught they should be dressed, and rinsed clean in pure water, and then salted. To let them lie for hours or perhaps days before salting them, injures the flavor of the meat very much, and at times renders it unhealthy.

## THE HEREFORDS.—No. 2.

THIS number will be devoted to the reasons why the Hereford herd of Messrs. Corning and Sotham is a superior one. All men talk in *generals* about cattle, and very few admirers and breeders do otherwise. My first number, so far as related to the herd, was of that character—and so of necessity. It was meant merely to assume a position. That being taken, I will now commence, where we all in talking of cattle ordinarily stop, viz. the assertion of a broad opinion of approval or condemnation, and give the reasons for the conclusions of my judgment. To do this properly some general principles must be stated.

I. Cattle should be uniform in family character, presenting as a herd and as individuals the general excellences, which distinguish their particular breed. Different ones will be above the average standard, others below it, but all should have so marked an adherence to the general character as to be at once recognized. This is to apply of course only to *good* cattle. It *will* apply to any herd of the common cattle of the country. If they be selected in any numbers, they will present great uniformity, but in the main it is a uniformity of defect; they will vary more in their milking quality (boasted as it is by the advocates of the race) than in anything else. It is easy to have uniformity of defect, hard to have it of excellence. Such is this general principle. Who can point to three herds in our country of improved cattle, possessing uniformity in excellent character? By this I mean the received excellent character of the breed. I know but two. The one is the Devon herd of Mr. Patterson, of Maryland, the other the herd of Messrs. Corning and Sotham. I have seen most of the Short-Horn herds in the United States, and am familiar with those imported and bred for the last fifteen years. I challenge any one to point out a herd of Short-Horns in America of any considerable numbers that present uniformity. I do not mean of *color*. That is nothing if it be within the true range, viz. red and white, and their mixtures. I never heard of but one herd of Short-Horns entirely uniform, and that was Mr. Bates's, of Kirkleavington. Up to 1830 they were even in color, all red, or red with a small amount of white. In that year he introduced the bull Belvedere, a roan, presenting otherwise, however, the same excellent character as the herd. Since that year the roan has mingled in about equal numbers with the red and white. His cattle are all uniform in general size and make. Any one cow and bull of his will not breed a large open boned, loose, flat-ribbed, light chested calf, and one the opposite of all this. The herd of the late Earl Spencer (better known as Lord Althorp), had uniformity but in *one thing*, viz. general *masculine* character; this made all his bulls coarse in the head, and his cows rarely or never fine, and rather too masculine. He found it very difficult to preserve high stamina, and perhaps could not with fineness, and so sacrificed fineness for a hardy constitution. This gave an uniformity in one respect to his herd, but not a pleasing one. There was variation in other respects, and he had very good and very bad animals, with perhaps a slight prevalence of defect. The famous herd of Charles Colling, through all its periods, presented great dissimilarity

among its different beasts. During the latter years of the life of the celebrated bull Favorite (252), he used both Favorite and Comet (155). These two bulls derived from the same stock and deeply bred in and in, and almost identical in pedigree, were as unlike as could be two bulls of the same breed. Favorite was a fine, large, open-ribbed animal, with great style and stamina. His excellences consisted in fine handling, and great aptitude to feed. His value lay, however, in the superior character of his get. They were almost all superior to himself in every respect. The basis of the family to which Favorite and Comet belonged, in Colling's hands, was Lady Maynard. She was a fine cow, with great constitution. She was bred to Foljambe, and Phoenix was the produce. Foljambe was coarse, deriving the coarseness from his sire, and so was Phoenix, both having great stamina. Favorite was out of Phoenix, and took her coarseness. In him there existed a family tendency to fineness and coarseness. Some of his calves possessed the fineness, some the coarseness; but as a general thing, his get united both fineness and stamina. Thus he made his get superior to himself in high show of style and fineness, yet imparting his great vigor. Comet was fine and vigorous; got by Favorite he went back to Lady Maynard for character and took the stronger tinge from her. Yet he had not the full vigor which belonged to the Foljambe strain. In Mr. Colling's herd there were all shades of color within the true range, red, yellow-red, roan, red-roan, yellow-roan, white, red-white, roan-red-white, and flecked. Even after his herd was *established*, it possessed varying animals; some so bad as to be worthless, some of the rarest excellence. The good ones were descended directly from superior females, originally purchased by him. These were Lady Maynard, the Duchess from Stanwix, the original Daisy, and Old Haughton. All his excellence came from these four cows. He had recourse to the Princess and Red Rose families of R. Colling. Yet from the introduction of bad crosses on these four families, he had great variation. From his great compactness, fineness, and constitution, Hubback got uniformly good stock on these families. But Hubback's stock, as well as himself, were disposed to sterility; Bolingbroke also was uncertain; from this Favorite was free. Hence Favorite was used as long as he could be, and upon his own daughters for three or four, and in one instance, even six generations (he lived to be sixteen years old). Mr. Colling's long breeding, in so indiscriminate a manner, gave him all hues of color (within the true colors), and excellence as varying as the color. The families that were distinguished by great uniformity of color (whatever might be the color), were marked by uniformity in other respects. His best families were all red and white originally (which was the entire original color of the Short-Horns), and where in their descendants the red prevailed, there was greater excellence in the animal and great uniformity in that excellence. This chance of a union of great seminal vigor and great constitution with general coarseness in Favorite, gave a general tone to all the animals of the herds of both Charles and Robert Colling (the latter doubtless the better breeder of the two), and made them vary greatly in their char-



acter. Uniformity was wanting; the animals possessed every grade of excellence and defect; some matchless; some worthless. So bred, the herds of those gentlemen, when sold and dispersed, failed to realize any good in the hands of others save in one instance. The best herd in England at the time of the sale of Charles Colling, in 1810, and for many years before, was that of Sir Henry Vane Tempest. But unfortunately, by his death in 1813, his herd was dispersed and lost; and Robert Colling's followed in 1818. In 1810 Mr. Bates bought, at C. Colling's sale, Duchess I.; and prior to this he had bought Duchess by Daisy Bull (186), which cow he had bred to Favorite (252), and in 1810 possessed Ketton I. Duchess I. was bred to Ketton I., II. and III., all bulls of the same strain. Mr. Bates was determined to have uniformity in everything, color, excellence, and constitution. For twenty years, except once, he did not go out of the Duchess tribe for a bull, always using bulls got by a bull out of a cow of that tribe, except in the instance of Marske (a bull of the Princess tribe), and Second Hubback, a bull got by a bull of the Duchess tribe, out of a cow of Mr. R. Colling's very fine Red Rose family. He only went once entirely from that family and then into one equally good, the Princess family, in the case of Marske. In twenty years, he bred but one roan animal in his Duchess tribe, and he (Duke II.) was got by a roan bull, Duke. During all this period Mr. Bates' stock possessed the greatest uniformity. It was his point to have, and he had (and still has, though his color is now red and white and roan, the latter coming from his cross with Belvedere, a Princess tribe bull), uniformity in everything, color and excellence. Up to the introduction of Belvedere to his herd, he had adhered to his Duchess blood entirely (except in the case of two or three cows put to Marske), and had produced a disposition to sterility. But for this he would not have used a bull of another family. It is true that he might have, without this as a cause, resorted to Belvedere with advantage, for he was in everything, family and individual excellence, equal to the Duchess tribe. When Belvedere was brought into the herd, the only change he made in a marked manner to the eye, was that some of his get were roan. In essentials the herd remained the same. There was only to be seen that improvement which arises from renovation. It may be, and I incline to the opinion, that this renovation by change was necessary, and did really give increased style. Since 1831, Mr. Bates has used that blood, a union of the Duchess and Princess tribes, mainly, and has only resorted to any other in one instance, viz. Cleveland Lad. He was got by Short-Tail (by Belvedere, dam, a Duchess cow), out of the celebrated Matchem cow, the dam of Mr. Bates' Premium Oxford cow.

I do not speak more of Sir Henry Vane Tempest's stock, as it is little known in this country.

I have given these particulars in the history of the herds of the two Collings and Mr. Bates, for the reason that, both in England and America, they are well known and deservedly celebrated. These particulars will be new to most of the breeders of cattle. I have selected the Short-Horns as the great and deservedly leading race of cattle, *superior where they are good*, to all others, as a standard well

known, by which to make a comparison. There have been but two uniform herds (I do not mean families) of Short-Horns yet ever possessed together, viz. Mr. Bates' and Sir H. V. Tempest's. From the herds of the two Collings, the vast mass of Short-Horns have been derived. These herds had all kinds of cattle in point of excellence, good and bad. The different herds scattered all over England and America derived from the Collings indiscriminately, have now all the varying character which their originals had. I have never seen anywhere in our country an *uniform* herd of Short-Horns. Among them, and in the same herd, I have seen the best and worst cattle I have ever seen. This might be obviated if it were not for the back breeding; for then the good might be selected and the bad killed. It is the ones, good as individuals, with a bad tendency in the strain back, which breed the bad ones. Some very fine cows, when put to the best bulls, will never breed any but the poorest of bulls, which, when grown up, will be coarse and worthless. Men, on account of the blood of a particular family, will adhere to a bad animal, or a good one that breeds badly, and thus engraft on still deeper plant the tendency to badness. I know a small herd in which there are very superior cows and some worthless ones. Of them I have two in my mind. They will represent the whole herd. The one is compact, fine, light in the offal, ripe in the prime points, with good style and constitution. The other is *big* (in one way), with large head, Roman nose, ewe neck, thin back, large bone, open ribs, staring coat, hard skin, and harder flesh. These two cows are bred in blood essentially alike. They are owned by a critical judge, but he loses his keenness when his own breeding is at stake. He would reject the bad cow in an instant if she were not his. But the same blood produced both, and he hopes that the *blood* will overtop the individual defect. But she was got by a good animal. It is her blood that has produced the defect, and she will transmit it increased in power.

I have thus dwelt very fully on the principle of uniformity, for the reason that there is no certainty in breeding without it. In doing so I have resorted to the best known herds to illustrate. If a herd of cattle can be found perfectly uniform in its excellences (whatever they may be), it must be superior, in that regard, to any one defective in this point.

II. Cattle, as individuals, should possess certain conformations to make them excellent. It is easy to say that cattle should have full briskets, round chins, full crops, broad backs and loins, long, level and full rumps, round ribs well back, deep flanks, and fine thighs. Every breeder who fancies (and the most are mere fanciers and not possessors of knowledge) that he knows everything relative to cattle, will prate in this way. It has become the fashion, and each takes his *rôle* as the parrot does her oft repeated chatter. Yet ask one of them where the prime meat lies in a carcass, and he cannot tell you; send him to the market, and he will in his ignorance suffer his butcher to sell him any piece at pleasure as prime meat. Go to his yard, and he will point you to his cattle, that are bad in brisket, chine, crop, back, loin, rump, rib, flank, thigh, and claim your admiration. If he has a bull to show, he will exhibit him as a jockey does

a stallion, parading him on rising ground, thrusting his head up and of course sinking his back till it is hollow, and his haunch sticks out like a starved calf's, stuffed for show with bog hay. This may be called *stallionizing*. When he takes you to his table, and his cook has served the piece of beef that his butcher sold him (and if bad cheated him in it), he does not know how to cut it; he carves so that, if good, it is made poor, and if poor, worthless. Yet this same man, if one criticises his cattle, will condemn the judgment. He assumes to be a judge, and goes to cattle-shows and acts as such. His judgments will go by his fancies, and by the interest he has in particular strains of blood; and these will follow the pedigree of the animals or their breeders' reputation. If he be interested in the stock of one of two rival breeders, he will condemn that of the other. He will perhaps fancy one point and have a proper notion of it, and will on that one point praise or condemn an animal, and on it make awards, and in most cases wrongly. Into the herd of this *judge* a purchaser who really knows, shall go and choose his *best* animals, and the *judge* will laugh in his sleeve at the *ignorance* of the buyer. The purchases made by drovers and butchers (who know and keep their knowledge to themselves) out of farmers' herds daily illustrate this. If he has wealth and is a breeder, with a large herd having fashionable pedigrees, he will scatter worthless cattle far and wide, bought by ignorance as profound as his own. He, and all like him, are the dupes of English cattle jobbers, who foist upon them, miserable brutes, with high sounding pedigrees, at enormous prices. And like this one breeder and judge are the whole race. They know nothing that they do not plagiarize; and when knowledge is given to them, they learn its words and retail them without their spirit.

I draw this picture for the reason that by such judges different families and herds (among them the Herefords) have been decried and depressed, and by such I shall be judged and condemned. For my opinion of Mr. Sotham's cattle I have not received one word of approval save from one *real* judge (a Short-Horn man exclusively, too), but from many, those of censure. But in the mean time while the Herefords have been decried by breeders of other races, by opposing interests and prepossessions in favor of other kinds, on the one hand, keen-sighted judgment begins to see and purchase on the other.

Now what are the excellences of cattle? I propose directing my remarks only to the *consumable* excellences. Head, neck, legs, tail, I shall not here notice. They are mere offal, and are not eaten. They are good or bad in themselves only as they connect themselves with consumable excellence, &c.; in themselves from their nature only indicating goodness or badness, and of no consequence otherwise. Were I to discuss them here, it would occupy more space than proper at present.

Passing them, I will take up first the brisket. Here lies, in a proper beast, some of the finest corning pieces in the whole carcass. If the brisket be full in front and broad between the legs, there will be a large layer of fine flesh on it. There is the same amount of bone in a bad brisket as in a good one. The expansion into prominence is nearly, and in breadth wholly, from flesh. Hence

a thin brisket is all bone and worthless; a full one is covered with flesh and is valuable.

2d. The chine should be broad, full, and level, and why? If it be sharp and thin it projects. There is *more* bone in a thin chine than in a broad one; it is higher. The space upon which muscle attaches itself is so much larger, that more is devoted to that purpose. Now the more of a given quantity of flesh that is used to attach the whole mass to its appropriate bones, the greater the tension, and from the tension the tougher the beef. When the chine is broad and round, the bones are lower and smaller, the space for attachment is smaller, and if the flesh be only the same in amount as in a high chine it will have less tension and be more tender. But a high chine is always connected with a flat rib; a broad chine with a round rib. A flat rib attaches to the spine in an oblique direction, making an obtuse angle; a round rib attaches in a perpendicular direction, making a right angle. But the right angle will contain the most flesh. There is *more* flesh from the capacity of the enclosing space with the same bones, and it is tenderer, because less is used for attachment. Hence broad chines are excellence.

3d. Crops; these are bad for the want of flesh, and good from its presence. Hence full crops, being good ones, are excellence. The chines and crops are at the points where the prime beef lies. The animal, to be good, must have them good.

4th. The back and loins must be broad, and for the same reason that the crop must be broad, to have a round rib and space for flesh and small attaching surface for the muscles.

5th. The rib must be round; and for the reason that it gives breadth of chine and back, and makes a right angle at its junction with the spine, giving room for flesh and less attaching surface. It must be round also, to give more room to the viscera of the chest and belly, and these must be large, to give capacity to furnish the proper amount of nutriment to make a large amount of flesh. Round ribs are excellence.

6th. The rumps must be long, broad and level. The longer they are the more space for meat; they must be broad and level, for the reason that the chine and back should be. The rump makes some of the best steaks in the carcass; those next the hips are the very best in the carcass; the tail end of the rump makes the very best corning piece in the animal, and quite as good a steak as the meat of the *upper* part of the loin. The shorter the rump the narrower it is, and the less steaks and corning meat. When it is narrow the tail is high, the skin and muscles are rigid, and the flesh is not only small in quantity but poor. When it is broad and level, the meat is more in quantity and better in quality.

7th. The hip bones should be broad; this because of the formation which makes broad backs and rumps. The same bony formation which makes back and rump broad, makes hips broad; hence they should be broad. They are offal, but are surrounded by meat; and therefore are important as an indication, direct, not collateral, as in the case of proper heads and legs. The wider the hip bones the more space to hold meat, and the wide ones do hold the meat which the narrow ones cannot.

8. The thigh should be *small, thin, light* and *fine*



Here I am in opposition to the *fashion* which most Short-Horn men *follow* and *approve*. They follow and approve because it is the fashion, and for no other reason. I have not the space here to assign the entire reasons for my position. If any one is disposed to combat my opinion, I shall be glad to sustain with full reasons my view, and may, perhaps, do so hereafter without having them questioned. I will merely state that the larger the thigh the shorter the rump, and the narrower the hip bones. The pumpkin thighs have always accompanying them short rumps and narrow hip bones. The meat of the thigh at the lower end is always coarse. It will not make corned beef, and is only fit to be *dried* after corning. The larger it is, the coarser and poorer it is, being very dark and stringy. The larger it is at the lower part, the smaller it is at the point where it joins the rump. Now the best part of the meat at the thigh is the upper part next the rump. But when the thigh is very large it is at the expense of the rump and the upper part of the thigh. The rump is *prime* meat, and the *upper* part of the thigh is *good* meat, while the *lower* thigh is *inferior*. If the thigh be large, there will be less superior and more inferior meat. I ask that any one who doubts this position, shall view cattle in this respect and *measure* them alive, and view them dead, and eat them cooked. I never saw and never heard of a large thighed cow that was a good milker; or a large thighed ox that was a good worker. The larger the thigh the straighter the leg in the perpendicular, and a *straight* leg never went with a good bag, nor with working power. A straight leg is a bad lever, and the muscles of the thigh below are not the muscles of draught, but are a weight to prevent draught; the muscles of draught are along the back, loin, and upper part of the thigh. Thus big thighs make increase of bad beef and decrease of good; diminish the power of working, ruin the milking quality, and never are connected with fineness, but always with coarseness.

Such are the more prominent excellent qualities which cattle as individuals should possess, and which should mark, on the average, a herd. What single herd of large numbers can be pointed to, which embraces in every member an average of *all* these qualities? At least no Short-Horn *herd* of any numbers, which has been bred and not collected, and even if collected, if numerous, can be. If it can be I should be glad to know it, and would go a long way to see it.

To all these requisitions the Herefords of Messrs. Corning and Sotham answer fully. In head, horns, necks, tails, legs and paunches, they are fine; their offal indicates the high order of the consumable excellence of their carcasses. In their briskets, chines, crops, backs, ribs, hips, rumps and thighs, they are superior and *uniform*. In their milking qualities they are excellent in quantity and quality. Are they not then valuable? They are indeed, and should be widely disseminated.

In my next I shall consider them in detail. If I do not show that as individuals they all are equal on the average to the standard I myself have made by which to measure them, then shall I fail to sustain my position and my judgment. Of that I have no fear. I am confident that my position is well taken and will be sustained. A. S.

## POTATOES VERSUS WHEAT.

*A notice worthy the consideration of farmers.*—On page 46 of Ellsworth's last report from the Patent Office, in speaking of potatoes, he says (quoting from Jacob's Corn Law Tracts), that an acre of land with the same labor and manure will yield 300 bushels of potatoes or 24 bushels of wheat; and adds, that 7 lbs. of potatoes will give as much nutriment as 2 lbs. of wheat. Let us see the result. The nutriment of 300 bushels of potatoes at 60 lbs. per bushel, is 18,000 lbs., divided by 7 is 2,571; 24 bushels of wheat at 64 lbs. per bushel, is 1,536 lbs., divided by 2 is 768. It follows of course, that it would take 3½ acres of wheat to yield as much food as one acre of potatoes. Let us examine the value at market:

300 bushels of potatoes, at 37½ cts., is....	\$112.50
24 " wheat, at \$1, is.....	24.00

Again, at page 78, he gives the comparative value of 100 lbs. of potatoes as food, and says they are Equal to.....25 lbs. of Meat without bone.

"	28 "	Beans.
"	35 "	Wheat Bread.
"	190 "	Parsnips or Carrots.
"	300 "	Turnips.
"	400 "	Cabbage.

Can one raise 34,200 lbs. of carrots, or 54,000 lbs. of turnips, or 72,000 cabbage to the acre? If 34,200 lbs. of carrots can be raised to the acre, then the farmer should turn his attention to this root. 300 bushels of potatoes sold in New York at 37½ cents per bushel, would buy in Indian corn at 83 cents, 135 bushels of Indian corn; this would be the cheapest food he could give his cattle.

Von Thaer, in his Principles of Agriculture, makes 100 lbs. of good hay

Equal to.....	200 lbs. of Potatoes.
"	460 " Beet-root.
"	350 " Rutabaga.
"	267 " Carrots.
"	660 " White Cabbage.

One acre of good grass land will give 3 tons of hay, say, 6,000 lbs. Do. do. 18,000 bushels of potatoes, equal to 9,000 lbs. of hay.

If this be true, let us see what a clever farmer, near a market, ought to do. Suppose he has 200 bushels potatoes to the acre, at 37½ pr. bu. \$75 00  
2 tons of hay, " \$15 30 00  
60 bushels of shelled corn, " 62½ pr. bu. 37 50  
18 " wheat, " 1.00 " 18 00  
22 " rye, " 75 " 16 50  
30 " oats, " 40 " 12 00

Surely, he ought to raise potatoes; for an acre of potatoes will buy for him, the

Produce of.....	2 1-2 acres of Hay.
"	2 " Indian Corn.
"	4 1-6 " Wheat.
"	4 1-2 " Rye.
"	6 1-4 " Oats.

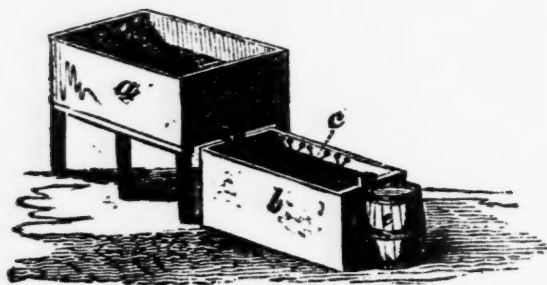
Let farmers think of this next year. Sell your potatoes this year and buy hay, straw and corn, even at the present high price for corn. R. L. COLT.

**A LARGE EAR OF CORN.**—A friend in Butler county, Ohio, writes us that one of his neighbors raised an ear of corn, the past season, 14 inches long and 8½ inches in circumference, which had 840 grains. It was raised on land which had been in cultivation thirty years without manure.

## CULTURE OF INDIGO.

I NOTICED some letters in your last volume upon the culture of indigo; and as it is one of the subjects upon which you originally invited my attention, I will proceed to state as shortly as may be, what I learned in my youth upon this matter. My father grew indigo, as a crop, until I was sixteen years of age, and was considered to have made a good article.

The laborers are divided into gangs of ten, and are expected to cultivate 30 acres to the gang. The soil should be moist whether loam or clay, well drained, and divided by small trenches 24 feet apart. The indigo is drilled 14 inches between the drills. The seed is very small, and should be soaked for a night, then mixed in dry ashes or sand, and sown along the drill carefully and regularly. Four quarts of seed carefully sown and well mixed in ashes is enough for an acre. In this climate the seed should be sown in the first week of April. When it first comes up, it resembles white clover or lucerne, and should have the grass carefully picked by hand from the drill. When it is an inch or two high, it must be weeded between the rows, and the soil loosened about the roots. Three weedings are enough before the first cutting, which should commence about the first week of July, or as soon as the indigo begins to throw out its bloom.



INDIGO VATS.—FIG. 10.

For every set of ten hands, there should be what are called a set of works. These formerly cost about \$100 or more, and were a vat or tank, made of plank two inches thick, well joined. This vat (a) is 20 feet square, stands upon posts 4 feet from the ground, and is kept tight by wedges, driven into the sleepers upon which the plank rests. The vat is 3 feet deep, and is called the steeper. Along side of it is another vat (b), 20 feet by 10, occupying the space between the bottom of the steeper, and the ground, into which the water is drawn, in which the indigo is steeped, when ready to be beat, or churned as we may say. At the end of this last vat, a small tank or cask (e) must be placed, to furnish lime water in the process of beating. The liquor is drawn from the steeper (a) by a spigot at the bottom of the vat, along the beater (b). Lengthwise of this, is stretched a beam (c), resting on its upper ends, and revolving on journals, and furnished with cross arms, to the ends of which are fixed open buckets without bottoms, containing about two gallons each. Two men, standing on this beam with a handspike fixed to the long beam, alternately plunge the open buckets right and left, thus churning the liquid until it begins to show a blue fecula, which is produced by small quantities drawn from the lime cask (e).

Indigo is so easily injured by the sun after being

cut, that the cutting begins and ends in the afternoon. As it is cut by the common sickle or reaphook, it is carried either to a shed, or conveyed and placed immediately in the steeper, where it is carefully spread. When the indigo is placed in the steeper from 2 to 2 1-2 feet deep, pieces of scantling are placed across the indigo weed to keep it down and from rising as the water is pumped upon it out of the reservoir. This operation should be accomplished about sunset; and a steeper of this size usually takes about an acre of ordinary indigo weed to fill it. The time of steeping is usually from 9 to 10 hours, depending upon the temperature of the water; the warmer it is, the sooner the process is over. But when the water assumes a light olive color, it is time to draw the water into the beater, and the process of beating commences, which is continued until the fluid becomes lighter in its general shade, and blue fecula begins to show in the water; which the sooner begins from small quantities of lime water having been let run by a spigot from the lime water cask, from time to time during the process. After the fecula shows itself distinctly in the water, the vat is left to repose for four hours, when the water is slowly drawn off by holes at different heights so as to allow the indigo to subside to the bottom; as soon as it has done so, it is carefully collected into bags which are hung up to drain. When sufficiently drained, it is placed in boxes 2 feet by one foot to dry under gentle pressure. When sufficiently firm, it is divided into squares, by rule and some sharp instrument, and placed under the shade to dry—commonly, in the upper story of a house. The varieties of indigo were produced, by the time in steeping, in beating, in liming. The shorter steeping and less beating produced the flotent or light blue indigo. But in looking back upon this process, I am astonished at remembering the indifferent and often turbid water that was used in steeping the indigo; which must have injured its quality.

In the dying houses of England, a filtering apparatus is made by four boards nailed together, 20 feet long, and a foot square, which is filled with coarse sand or fine gravel, with the ends stopped by two other boards, with very small holes in them, and the water used, is drawn through this wooden filter, from the reservoir, out of doors, to the vat within the house, which purifies the water—this could be easily done here. Again, the frequent rain showers that occur in our common summers must have often disturbed both the process of steeping and beating, and thus injured the indigo. From all these causes, the warm process first introduced by Dr. Anderson of Madras, and described by him in the Annual Register of Calcutta, and given in a note appended to Bryan Edward's history of the West Indies, must be altogether preferable. This process is under cover, and it is only steeped two hours, the water being heated to 160 degrees. A house 30 by 20 feet would contain two steepers, 10 feet square, and two beaters 5 feet by 10, the heating apparatus being placed between them; and would as I think take off twice the quantity of indigo in a day, besides continuing the process after, by the usual one, when the nights had become too cold.

In Georgia the indigo gave two cuttings; and usually 60 lbs. of indigo, in the two to the acre



which for three acres is 180 lbs. to the hand. With the warm water process, I see no reason to doubt we would have three cuttings, a better quality of indigo, and probably more of it; and this Dr. Anderson stated is the case.

My indigo-house has been built now two years, and I have only been prevented by the untoward seasons of the two years past from carrying out his plan.

The following is addressed to yourself and Mr. Partridge, whose communications upon this and other subjects, I greatly value. Why not throw steam into your steeper, for 10 or 15 minutes, and then pump the water from your tank? What is a little curious, steam allowed to pass off at the boiling point just heats to 160 degrees, the very point which Dr. Anderson found the proper temperature for extracting, or as I would say, taking off the coloring matter from the weed. Again we find, in all applications of steam, it acts more promptly and more perfectly than water—as witness the Turkish bath. By this process much labor would be saved in heating the water; we would have also an exact measure of heat; and experience would soon give the due measure of time. Nothing but my age and infirmities, combined with two bad seasons, have prevented my carrying out the experiment, but I would be gratified at having Mr. Partridge's opinion upon the subject.

THOMAS SPALDING.

*Sapelo Island, Georgia.*

#### VALUE OF ANTHRACITE COAL ASHES.

I HAVE been a subscriber to the *Agriculturist* for the year past, and among the variety of subjects of which it treats, but more especially under the head of manures, I have looked in vain for an article upon the properties of ashes from anthracite coal, as an article of manure. (a). There is a vast amount of ashes annually made from anthracite coal in this vicinity, and throughout the country, and it becomes an important matter of inquiry whether they possess those fertilizing properties common to wood ashes, or whether they possess any value at all. Among us there is a variety of opinions upon the subject, some maintaining that they are not only of no value, but a positive injury to most soils, while others maintain that they are nearly or quite as good as wood ashes. I incline to the latter opinion. I would not say that they are as valuable; but that they are of sufficient value to make it an object for those who burn coal to save all the ashes for the purposes of manure. I have tried them sufficiently to satisfy my own mind; and if a simple statement of facts as brought out by my own experience will induce others to try the experiment, or will be the means of bringing up the subject for discussion in your paper, I am sure I shall feel gratified, and the community at large will be benefited.

In the summer of 1842, I put upon a piece of ground which I planted with corn, on the most barren parts of it, some two or three cart loads of coal ashes, spread broadcast, and very thick. The result was, that there was a very perceptible difference in favor of that part which was covered with the ashes, although it was on decidedly the poorest soil; and this difference was perceptible the year following in the crop of oats. In the summer of

1845, the same piece of ground was planted with corn (as the grass seed did not take well in consequence of the dry season of '43), and coal ashes were again tried on another part of the piece and applied as before, and with the same results; the corn being much larger where they were applied, than where none was used—indeed it was much larger than where the barnyard manure was used. It will be recollected that the summer of '45 was a very dry one, and such seasons are not commonly considered as favorable for ashes of any kind; but for aught that I could see, the drought affected that part where the ashes were the least of any. I am now trying an experiment which I think will test the matter thoroughly. Last fall I selected the most barren spot that I could find (and which in the spring I intend to plant with corn) of about four rods square, and sowed it very plentifully with coal ashes. If under ordinary circumstances, it yields a fair crop, I shall attribute it to the fertilizing properties of the coal ashes; and the result I will make known to you in due season.

*Milton, Ct., Jan. 12, 1846.* GEO. H. RANDLE.

(a) Our correspondent will find this subject treated at considerable length in Vol. 1, of the *Agriculturist*, pp. 236 and 324. Also a short notice of their value, Vol. 2, p. 11. We are not the less pleased, however, to be favored with this communication, and trust the writer will forward us an account of the experiments he contemplates making the coming season. We intend to bring this subject before the Agricultural Association of this city the present month; and get an analysis of anthracite coal ashes by some good chemist. We can then compare it with those of other kinds of ashes, and learn their exact value to the farmer.

#### STALL FEEDING AND SOILING.

No person can carry out the system of stall feeding and soiling cattle, with a view of increasing the quantity and quality of manure, unless he has good premises for that purpose. Good barns and stalls, and good sized yards, are necessary for the profitable wintering of stock. Too few, I regret to find, are provided with these advantages. Let any one drive through the country and see with what small and scanty barns, sheds, and yards, the farmers are provided to make the most of their cattle through the winter. Many a man is cultivating from 200 to 300 acres of good land, when he has not buildings for more than half the quantity he works. I believe it is admitted by every one who has cultivated strong, wet, clay land, that before any improvement can take place, it must be well drained. This is not an expensive process. If the farmer will only take a good agricultural paper, in which he will see the best modes that have been tried by others, he may easily accomplish it with a little energy and perseverance on his part. He may be assured that the money and labor will be returned to him ten fold. I believe if the farmers of this present day will drain their lands where it is wanted, get a good new improved sub-soil plow, and not be afraid to plow deep, they may accomplish more than they are aware of.

*Dutchess Co., N. Y.*

J. D. WILLIAMSON.

## SCRAPS FROM MY NOTE BOOK.—No. 1.

WHILE travelling over the United States for several years past, I have jotted down in a memorandum, whatever appeared to me worthy of note, and which might some day be interesting to those who take pleasure in increasing their agricultural information. And here I give you a scrap about

*An Orange County Milk Farm.*—While on a visit at Newburgh last summer, I made the acquaintance of Mr. J. R. Colwell, who lives on a farm of 280 acres,  $2\frac{1}{2}$  miles from the river, and upon which he keeps 50 cows, 4 oxen, 5 horses, and varying numbers of young stock. About 60 acres are in grain cultivation; the other in pasture, mowing, and woodland, which latter, however, is pastured. The average crops on this, as well as adjoining farms, may be fairly stated as follows:—Corn, 40 bushels to the acre; rye, 20; oats, 40; and hay, one-and-a-half tons. Of course the great reliance for profit is upon the milk sent to the city market. This is sold at an average through the year of two cents per quart, delivered on board of steam-boats at Newburgh. Mr. Colwell expects his cows to average 5 or 6 quarts of milk per day through the year, which will be in a year, at  $5\frac{1}{2}$  quarts per day, 2,007 $\frac{1}{2}$  quarts, at 2 cents, \$40.15, which is a little below what is generally calculated for the average produce of cows in Orange county.

Last year Mr. Colwell only kept sixteen cows, from which he sold milk to the amount of \$890, making an average of \$55.62 $\frac{1}{2}$  to each cow; a very pretty little item for some of us out west, who brag of our great prairie pastures, to set down opposite our account of profit, where cow-keeping costs nothing, and the profit is in exact proportion.

But I must tell how Mr. Colwell's cows are kept. In summer, upon good pasture, watered by such springs and rills as are always found trickling through a mountainous country such as this is. At six o'clock regularly through the summer, they are brought from the pasture to the yards, and milked, and then turned out in a different pasture during the night. This change of pasture every night, Mr. Colwell looks upon as an item of great importance. When the pasture begins to fail, say 1st of October, he commences feeding half a bushel per head per day of brewer's grains, which are hauled each day from Newburgh, and fed to the cows in heaps laid upon the clean sod. The winter feeding commences on an average the middle of November, and ends about the 10th of May. The cows are all stabled through the winter, and at present turned out to water; but Mr. Colwell intends to fix his stable so as to water them as they stand in the stalls. For winter feed, everything of straw, hay, or stubble kind, is cut up, and corn and cobs, and occasionally oats ground, and two quarts of this meal, with three pecks of brewer's grains to each cow, is mixed up with the chopped straw, &c., twelve hours before feeding, and given in quantities to satisfy each appetite—not forgetting a daily allowance of salt. This feed, and a warm stable, gives him almost as much milk in winter as in summer. When I was there in October last, the price of grains was four cents per bushel, and I think I understood Mr. Colwell, that was his contract price through the year. If you will add the present prices of hay and grain, it will be interest-

ing to some of us "outside barbarians," and enable us to "calculate" the cost of milk. [We shall be obliged to Mr. C. if he will do this. Ed.] Mr. Colwell could give you many other items worth your notice, I dare say, and I engage you a most hearty welcome, if you will give him a call.

There is another thing connected with this farm that gives it a claim upon the notice of every true American, who loves the mementoes of our Revolutionary history. It is the very ground occupied by Washington's army, while he occupied that memorable old stone house in Newburgh, which is still known as Washington's Headquarters. It was upon this farm where our toil-worn, poorly fed, and worse clothed soldiers used to lie down in far worse winter-quarters than do the present occupant's cows, and at times, too, when they would have been right glad of some of the good, sweet meal now fed to them, to say nothing of the rich milk poured out upon this field of Mars, where the verification and benefit of beating swords into plowshares is so well illustrated. Relics of those ancient days, are still plowed up from time to time, as the plowman becomes satisfied of the truth of turning up gold if he will but *plow deep*. Far more likely to plow it, than to dig it up, out of "Kidd's ship," which some of that numerous class of people who seek to live by any other mode than plowing, either deep or shallow, are still shallow enough to try to do at a place on the river below West Point, called Colwell's landing, after one of the ancestors of the gentleman I have mentioned, and who accompanied me down the river and pointed out this and many other interesting spots. Here it is said, \$20,000 have been spent in money digging, which, if it had been spent in digging the soil, would probably not have been sunk like the present expenditure, deeper than that sought after.

*Quantity of Grass Seed sown to the Acre.*—In my own neighborhood, and many other places in which I am acquainted, four quarts to the acre of timothy seed is thought to be a good seeding; and I am laughed at for talking about putting on half a bushel. If such men ever read, I should like to have them learn how they seed land in Orange county. Noticing while on a visit to Mr. Charles Downing last fall, that he was seeding down a piece of ground—dry gravelly loam upon a side hill, I had the curiosity to see how much seed he put on to the acre, and found it was half a bushel of clean timothy, one-fourth of a bushel of orchard grass, and one-eighth of a bushel of clover. Now, if four quarts is enough, what a waste of seed is here? And equally wasteful was he in the labor bestowed upon the land. Not contented with plowing and throwing on the seed in a windy day, he actually sowed it carefully even, and then harrowed the ground until smooth. And what is more, picked up the roots, stones, and trash, besides the waste of putting on manure.

"Well, no wonder such folks can make \$55 from a cow in one season—we can't do it out west, that ar' a fact, stranger; but then we can live without it."

That is the answer—"we can live"—yes, we can and do live, the Lord knows how; but you never will till you come and see. "One half the world don't know how the other half live."—No;



if they did, they would try to live better. If some of "your folks" "down East," only knew how some of "our folks" "out West," lived, or pretended to live by farming, they would be more contented; and it western land spoilers knew how eastern land skimmers had skinned their land to death, they would not go on doing just the same thing. But they won't know, and, of course, won't do.

SOLON ROBINSON.

*Lake Court House, Ind., Dec. 6, 1845.*

#### TO GET SANDY WOODLANDS IN CROP.

I AM cutting off the wood of a tract of land along side of the Long Island railroad, with a view of clearing it up and cultivating it. What is the best and cheapest method that I can pursue to get it into crop? You know that it is a poor sandy soil.

*Islip, Jan. 13, 1846.*

G. A.

We would advise our correspondent to remove all his wood off as early as February, and cut and pile the brush. As soon as this is dry enough in March, commence burning it, and then scatter the ashes carefully over the land. Now take a strong break up plow, with a sharp coulter, which will go through the land and cut up the surface roots completely, 6 to 9 inches deep; it can then be as easily plowed with the common plow, as an old field. Give it a top-dressing of Peruvian guano, at the rate of 400 lbs. per acre, mixed with fine charcoal dust. Harrow this well in; then sow at least 3 or 4 bushels of oats to the acre, and half a bushel of clover seed. Harvest the oats when ripe, and neither feed nor cut the clover that year. If this advice suits our correspondent, we will, in a future No., tell him what further to do with his land.

#### A CHEAP FARM-HOUSE.

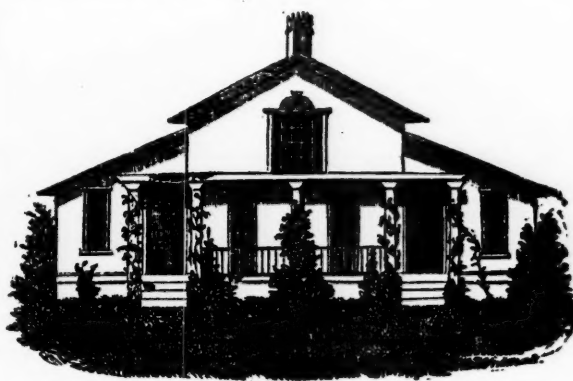
Whoever rears his house in air,  
Will need much gold to build it there;  
While he that builds an humble cot,  
May save some gold to boil the pot.  
While that so high the cot outshows,  
Is hard to climb the good wife knows.  
Who has the cot ne'er wants a home;  
Who spent the gold to want may come

It is an old proverb, Mr. Editor, that many a man has built his house so big he could not live in it. Sometimes it is because he don't know how to build less. Can we help to show him? Notwithstanding the high character and the adaptability of Mr. Downing's works to the "upper ten thousand," the wants of the lower *ten hundred thousand* are not satisfied.

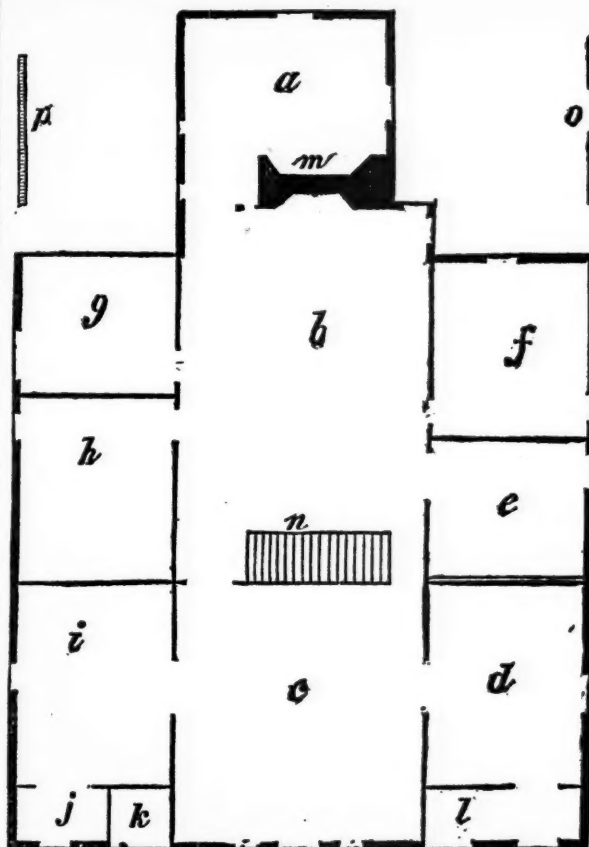
It is often the case, particularly in settling new countries, that a man wants something that will answer for immediate shelter, and which he would be glad so to build that it would by and by form part of the house—so he may be able to build part of a house this year, and part next year, and perhaps another part another year.

Now, any plan that is so arranged that the new beginner can build it in parts, having each part complete in itself, will be useful to many of your readers, who will never read "Cottage Residences;" and if they did, could not adopt a single plan in the book, for want of means. It is for the benefit of this class that I have arranged the enclosed plan.

It is particularly intended for the *new settler*, and to be built on the *balloon plan*, which has not a single tennon or mortice in the frame, except the sills; all the upright timber being very light, and held together by nails, it being sheeted upon the studs under the clap boards, is very stiff, and just as good and far cheaper than ordinary frames.



FRONT VIEW OF COTTAGE.—FIG. 11.



GROUND PLAN OF COTTAGE.—FIG. 12.

*Description.*—a, Wash-room, 13 × 13; b, kitchen 16 × 24; c, parlor, 16 × 16; d, f, h, i, bed-rooms, 10 × 12; e, store-room, 8 × 10; g, pantry, 8 × 10; j, l, clothes press; k, entry; m, fire-place; n, stairway; o, wood-house; p, garden gate; the pump should be in the wash room.

I would have a lawn in front, with shrubbery, and an orchard on the side opposite the garden. Between the garden and the house should be a road to the rear buildings, and between this road and the house I would have a strip of green sward ornamented with shrubbery. A corresponding strip also should

be reserved between the house and orchard. All the rest may be left to the taste of the person owning the premises.

Now, suppose a family just arrived at the "new location," and designing to build a house upon the above plan. First, they need some immediate shelter. Two hands in two days, can put up the room 13 by 13, marked wash room (a), in the plan, with a lean-to roof, the sides covered with wide  $\frac{1}{2}$  inch boards, feather-edged together, with a rough floor, which, with a rough shed to cook under, will serve for bed room and parlor while the house is building.

Next add the room marked kitchen (b), a good sized farmer's kitchen, 16 by 24. Board up the sides in the same way and finish off inside complete, and you then have a house with two rooms, the wash room answering well for a summer cooking room. Divide the chamber into three rooms, two of them 8 by 14 each, and the other 10 by 16, including the stairway (n). Make the posts of this part of the building 12 ft. 6 in. high from the sleepers of lower floor, and the lower room 7 ft. 6 in. in the clear; the joice ten inches deep, and the upper room will be 4 ft. high under the eaves, and you will consequently have to finish up the rafters till you get high enough in the centre.

Now add as you are able one or both of the wings, containing each a bed room 10 by 12 (d, f, h, i), and pantry and store room 8 by 10 (e, g); each of these is also a lean-to, the outside posts of which should be 6 feet high, and the roof rising 4 ft., will leave two feet above in the side of the centre building for lights into the stairway chamber. These side rooms will also have to be finished a little way up the rafters, to get height enough.

The sides of these rooms, which were formerly the outside of the main building, can be plastered or papered upon the rough boarding. Your house so far is a whole house, complete in itself, but next year you want it more extensive. Go on then, and add the front room (c), with or without the wings and porch, d, i, j, k, l, either of which could be added afterwards, by making your calculations as you go along, building one room after another as you are able, and until you finally get a very comfortable house, completed like the plan. In calculating sizes of rooms, I have not allowed for thickness of walls. The front chamber I would leave all in one room, with one large window in the front, and opening out upon the top of the portico, and having a drum which would be heated by the stove in the room below, and make a pleasant sitting, sewing, or nursery room, either in summer or winter.

As in all my design I aim at great economy of cost, convenience of arrangement, and occupancy of all the room for some useful purpose; so now I hope you are able to add a little cheap ornamental work to the front. Support the porch which is 6 ft. by 24, upon five neat columns, with railing, except the door way; make the roof flat, with a pretty little railing on top, so that we can come out of the front chamber of a balmy evening to smell the honeysuckles that have been trained up from below. Carry out bulwarks upon the roof of each wing, to hide the pitch. Put in a large window in the centre of the parlor front, of a half sexagonal

shape, with two narrow windows each side, opening by hinges down to the floor, through which in summer we can also have access to a pleasant seat upon the porch, and still enjoy the company of those who might choose to remain within the room. For the sake of symmetry, I place a door at each end of the porch, only one of which will be an open sesame, unless perchance about the time you get the "new white house" done, the sovereigns should elect you justice of the peace, or you happen to be a doctor, or somebody else, that wants a room for an office, just see how conveniently you can open the blind door through a passage like that on the other side, into one of the front bed rooms (i), 10 ft. by 12, where you could keep your official dignity very snug, without disturbing the family.

The kitchen, which should be the grand desideratum in every farm house, you will perceive is so situated that it has only nine feet of surface exposed to the weather, which will save many a load of wood, and yet by opening room doors, it can be well ventilated in summer.

Until you do get the wood house built, you can use the wash room in winter to keep a stock of kindling wood. If you like the plan and have the means, of course it will be best to build the whole at one time. But, if necessary to build by sections, you can do as I have directed, or you can build the front part first, or build the entire centre part first, and afterwards add the different rooms that lean-to.

My object is to accommodate the new settler and poor man, with a plan by which he can get a home without building himself out of a house, or getting a great shell of an outside show, full of unfinished emptiness. Look at the plan and see how far I have succeeded, and such as it is, accept it as a Christmas present from your sick friend,

Indiana, Dec. 25, 1845. SOLON ROBINSON.

#### GARDENING.—No. 1.

THE important benefits derived from gardening and the pleasure also associated with its pursuit, have obtained for it a distinguished rank among the various sciences which have occupied the attention of men. Its productions are alike calculated to cheer the frugal board of the cottager and to decorate the tables of the affluent. It furnishes pleasure, health and profit to the sedentary, the merchant or to the gentleman of fortune. Its practice relieves the mind from that bustle and confusion attendant upon a life of business—it is a source of healthy and strengthening exercise—and it is a recreation in which may be found endless gratification and delight. It has been the inclination of kings and the choice of philosophers. It has had among its most zealous practitioners, men from every grade in society and from every age and climate. "Our first most endearing and most sacred associations," observes Mrs. Hosland, "are connected with gardens; our most simple and refined perceptions of beauty are combined with them; and the very condition of our being compels us to the cares, and rewards us with the pleasures attached to them."

Gardening, like every other art, must be affected by the government under which it is exercised, either by its laws and institutions, or indirectly by the state of society as modified by their influence. Horticulture, in all its branches, will be most advanta-



geously displayed where the people are free; the final tendency of such a state of society being to conglomerate property in irregular masses, as nature has distributed her properties; and this irregularity is the most favorable for gardening as a necessary, convenient and elegant art.

The religion of a people is also calculated to have some effect upon their gardening; for those religions whose offices are accompanied by splendor and show, and which have various fêtes and spectacles, will be favorable to the culture of flowers and plants of ornament; and those which forbid at certain seasons the use of animal food, will in some degree encourage the production of fruits and vegetables. In order more fully to observe the influence which the different states of society and climate have upon this science, it would be well to take a retrospective view of its progress from the earliest periods down to the present time.

The art of cultivating the soil, according to Sir Isaac Newton, was invented in Egypt. According to Herodotus, the sacred groves or gardens were often of extraordinary beauty, thus designedly corresponding with that primeval garden where the Almighty Ruler first placed man. Every sacred grove was a copy of Elysium, and the prototype of Elysium itself was the paradise of Eden. From Egypt, this art spread itself through Persia, Greece, and other ancient countries, that eventually came under the dominion of the Roman emperors. The first mention that is made of a garden in the Roman history, is that of Tarquinius Superbus, B. C. 534. Livy mentions this garden, but it can only be gathered from what he writes, that it was connected with the royal palace in the city of Rome, that it abounded in flowers and was supplied with streams of water. The villa of Sallust was situated on Quirinal Hill, and in Stewart's life of Sallust we are informed that these gardens were so beautiful, that when Rome fell beneath the sway of her Emperors, the imperial residence was fixed in them. Some idea of Roman gardens about the beginning of the present era, may be obtained from the paintings rescued from the ruins of Pompeii and Herculaneum. They are represented in these paintings merely as square plots of ground, surrounded with trellis-work and ornamented with fountains and urns.

Among the fruits that were introduced into Italy by the Romans may be found the fig and almond from Syria, the citron from Media, the peach from Persia, the pomegranate from Africa, the apricot from Epirus, apples, pears, and plums from Armenia, and cherries from Pontus.

There is no Roman author exclusively upon this subject, but we find it treated of by Virgil, in his *Georgics*, by Pliny in his *Natural History*, and by Columella in his *Rural Economy*.

The decline of the Roman Empire commenced with the reign of the Emperors. Violence and rapine stalked abroad at noon-day—invasion from barbarians followed, and the ferocity engendered by the troubles of the times, seemed almost entirely to efface from the mind of man the noble simplicity of nature. Barbarism rode rough-shod over man and the arts; warfare became the only occupation, and a taste for this ennobling science was entirely rooted out.

From the commencement of the government of the Popes in the 8th, to the 13th century, horticulture was practised only by the monks and houses of religious persons in Europe. Harte informs us that the monks of St. Basil and St. Benedict rendered fertile many tracts in Italy, Spain and France, which had lain neglected ever since the invasion of the Goths and Saracens.

In A. D. 1440, the art of printing was invented; this, with other causes, conduced towards the establishment of commerce in Italy and Holland, and the arts of peace to prevail. The splendor and magnificence of the popes and princes, the remains of ancient grandeur, and the blessings of peace and commerce tended to the revival of the arts in Italy rather than any other country. The Medici family, in the commencement of the 16th century, did much towards the revival of the art of gardening. The earliest private botanic garden was formed at Padua, by Gasper de Gabrieli, a wealthy Tuscan noble. It was finished in 1525, and opened for the inspection and gratification of the curious. At an early period of the Roman Empire, the valley of the Rhone was a favorite retreat of the nobility, and nowhere out of Italy are to be found such splendid remains of villas as in the Provincia Narbonensis, in France. Gardening, with the other arts, proceeded from east to west. The Crusades, in the 12th century, excited a taste for building and gardening in the north of Europe, although some authors state that even before this period the Dutch cultivated many useful and ornamental plants. The Christian invaders could not avoid noticing the gardens of the Infidels in Egypt and Syria, and being struck with their beauty, imitated their plans, and imported their productions into Europe. The 16th century, however, arrived before the culture of flowers was attempted. The introduction of the Christian religion, though at present favorable, was at first adverse to the use of flowers; the rites of religion, then carried on in gloomy vaults, were not, as now, accompanied by bands of music, statues, pictures, and altars decorated with flowers. Botany now began to be considered a science, independent of medicine. Gardens were constructed, destined for curious and beautiful plants; and the discovery of America and the passage to the Indies augmented their number. Travellers collected seeds, which they sent home to their respective countries; great care was bestowed on such as appeared the most ornamental; till, advancing by degrees, they at length became objects of luxury, and trade, and caprice; fashion and variety gave incredible prices for some of these productions; for in what will not extravagance intermingle?

The gardening of our own country is, to some extent, necessarily that of Europe; but within a few years vast improvements have been made in horticulture here. Societies for the diffusion of information upon this subject, have sprung up in all parts of the United States, and with their rise and progress a new impulse has been given to this art. The taste for Horticulture has rapidly disseminated itself through the public mind—more so, perhaps, than a corresponding knowledge of skill necessary for the cultivation and management of its objects; consequently works on this subject are

eagerly sought after and attentively read. The raising of new varieties of various kinds of fruits from seeds, has for a few years past attracted much attention, and the time is probably not far distant when we shall be supplied with choice fruits, the results of our own experiments. Why should not our country take the lead in such matters? It is naturally rich in horticulture and botany, and with a genial clime favorable to the production of every fruit and flower.

L. T. TALBOT.

### A BEE FEEDER.

It is well known to be customary in these days, to obtain a patent for every new invention that one is so fortunate as to hit upon. That idea, I must confess as a matter of course, occurred to me in relation to a *bee feeder*, but I shall do no such thing. I will deprive no man who wishes to feed his starving bees the free use of my mode of doing it.

"The common mode of presenting them with food," says Bevan in his work on Bees, "is to introduce it through the mouth of the hive in a long boat formed by scooping out the pith from an alder stem. This plan of feeding, independently of other objections, can only be adopted in mild weather; for whenever the thermometer, generally speaking, ranges below 45° Fahrenheit, the bees are indisposed to descend, and in severe weather none of them will quit the *central* combs between which they cluster, even to feed upon their own collected treasures, but will rather hang together and starve unless those very combs be the repositories of those treasures. To guard against this evil, a supply of *warm* food placed over the hive or box will tempt them to quit the cluster, and partake freely of the donation, secure from all danger of the food being scented by other families, as well as from the destructive effects of exposure to cold while partaking of it. His own mode of presenting it to them in the spring, is by means of a trough formed out of a board of close grained wood, such as sycamore or beech grooved by a turner into concentric circular channels surmounted by a bell glass." (See his work, p. 65.)

Further, "if feeding be required in cold weather, which should always, if possible, be avoided, it will be prudent to allow access only to the inner groove, and over this to invert a small glass that will dip nearly but not quite to the bottom of it. This will prevent those chills which are apt to be experienced where the warmth of the family cannot reach it, and will secure any incautious bees from drowning. The trough is more particularly suited to spring feeding. At this season, if the bees have had a sufficient winter's supply, feeding will only be required on a small scale, it being chiefly intended as a cordial to promote early breeding. The autumnal supply on the contrary should *always* be large, for feeding by dribbles at this season of the year keeps up a continual excitement, and increases the heat of the hive to such a degree as to cause increased consumption and probably to injure the health of the bees. For this wholesale feeding he recommends the trough invented by Mr. Dunbar. It is turned in a lathe out of a solid piece of close grained wood, holding half a pint of syrup, into which the bees ascend through a wooden tube, passing over the top and down the outside till they

reach a float which is pierced with small holes. There are other particulars connected with it which it is not necessary here to detail."

I have extracted thus largely from Bevan's work (believed to be sufficient authority) to present several facts connected with the subject of feeding which it is necessary to consider in determining the merit of a new invention.

The feeder now to be described is made of tin, and consists of a cylindrical vessel with a tube inserted, to which is applied a small cup that must always be partially filled with liquid while the vessel contains any. Whenever the syrup is reduced below the apertures in the tubes at the bottom of the cup, a bubble of air ascends into the vessel, by which a fresh supply is let down. It is prevented from overflowing by the pressure of the atmosphere. The apertures in the tube of the cup are four, to which the end of the tube over which it is applied is cut to correspond.

Fig. 13, is a section of my feeder in a vertical plane, through the apertures in the tube of the cup, shown as filled and inverted, in order to be applied to the hive. (c) is a tube four inches in length and half an inch in diameter, over which the tube of the cup (b) fits closely and is pressed on the former until that is in contact with the cup, care being taken that the apertures for the passage of the syrup, as shown (e e), be preserved through both. The cup is one inch in diameter and half an inch in depth. The tubes and cup are covered with wax, as being more agreeable to the bees. (d) is wood surrounding the tube, and exactly fitting the aperture in the top of the hive. (f) is a section of the cup and its tube, shown as removed from the other portion of the feeder, and exhibiting two of the four points where they are soldered together. (g) is an instrument of tin of cylindrical form, stopped at one end and notched at the other, for making an aperture in the hive to admit the tube of the feeder. Press down very gently while turning it round. The portion of comb included in it will thus be removed without injury to the rest or to the leaf. The application of the feeder would be facilitated were a wooden tube to be inserted through the top board of the hive, or at least a suitable aperture made before the bees had possession.

Two advantages are claimed for this feeder, which it may now be proper to state. 1st. When the feeder has been applied, the bees will require no further attention until the quantity allowed them has become exhausted. 2d. It is adapted to winter-feeding as well as that of fall and spring. The bees have a constant supply in the upper part of the hive kept warm and fluid by their own heat, to which they can help themselves at any time and in any quantity they please.

I have had four feeders, holding from two to five pounds of syrup, in use two seasons, the contents of which have been entirely emptied except in a single instance, where the small passages from the tubes to the cup were clogged by sediment. This circumstance taught me the necessity of straining the syrup.

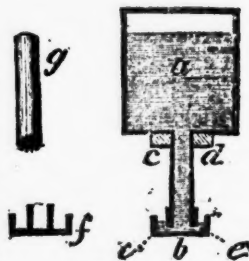


FIG. 13.



If the cups have sometimes overflowed I know not; yet I have often looked through the glasses of the hives to see, but have never observed any syrup on the floor boards. This fact leads me to conclude that when, by a sudden elevation of temperature, a quantity is forced out by the expansion of air within, the vessel being partially empty, the bees from the same cause require a greater quantity of food, which compensates the supposed difficulty. The former season I surrounded the feeders with saw dust as a bad conductor; the latter they had over them empty boxes only. The precaution is, however, to be recommended. Bevan recommends as the best spring food for bees and also the best substitute for honey in autumn, the following compound: one pound of coarse brown sugar and three-fourths of a pint of ale, boiled to the consistence of a syrup, to which should be added a teaspoonful of salt.

PHILETUS PHILLIPS.

Middletown Point, N. J.

### CULTURE OF POTATOES.

THE December No. of the *Agriculturist* contained a short article upon the Potato Rot, and an invitation to its readers to contribute facts relating to the cultivation of the potato.

My farm is upon the banks of the Connecticut, and the soil is of alluvial formation. Such soils are not favorable to the production of potatoes, as they are too close, and harden from the influence of the sun after rain. The porous, moist, upland, is congenial to the potato. Upon our *intervals* [meadows or bottoms skirting the river] we prepare the potato ground precisely as we do for corn, by spreading upon the green sward coarse and unrotted manure from the barn yard, and turn under as early as we can. After rolling and harrowing, we plant upon the surface in hills about three feet apart in the rows, and make the hill as large as we can. We do not hoe more than once, except in wet seasons, when the weeds flourish.

I planted one piece in the usual manner as early as the middle of April, and on the last day of May I planted another piece upon the same swell of land, turning under a good coat of grass to the depth of five inches. I then sharpened a stake (not very sharp), which was about three inches in diameter, and put an inch pin through it about ten inches from the bottom, so that stepping upon the pin I could easily perforate the sod. I then began making my holes between the two first furrows, about eighteen inches apart, and continued to do so in every fourth lap through the field. I then put one medium sized potato in each hole, forcing it down to the bottom of the sod, and covering it with my heel. After planting the whole field in this manner, I went over it with the roller, which left the surface perfectly smooth. After the tops were three or four inches high, I plastered them, and covered the plaster an inch or two with my hoe. Before the tops got to be too large, I went between the rows with a cultivator, and pulled the weeds out between the hills. The result of the experiment was very gratifying. The crop from this piece was almost twice as large as from the other. The potatoes were larger, and much finer for the table, and cost me not more than half the

usual labor. I would observe that this experiment was made upon dry soil, and in a very dry season. The process of decomposition underneath the sod concentrated the moisture, and the unbroken surface prevented evaporation. When I harvested (which I think should be as late as possible and avoid the freezing), I found that the tops came from below the sod, but the potatoes were upon the surface, some of them out of the ground. I shall try this mode again, and place the potatoes twelve inches apart in the rows.

I have escaped the rot, although all my neighbors have suffered from it the two past years. I cannot account for it, but reasoning from analogy I have formed the following opinion: That if the disease is caused by an insect, the plant may be too mature, or not sufficiently so when the insect appears, to suffer from such attack. Therefore we succeed best when we plant *early*, or *late*. This same theory would apply equally well to the supposition that the disease is the effect of the damp, hot weather of August. In sowing wheat in the spring, we know that we escape both the weevil and rust, either by late or early sowing, and I have noticed that the blast in the potato, and the rust on the wheat, come together.

WM. BELLOWS.

Walpole, N. H., Jan. 13, 1846.

### CULTURE OF SUMACH.

IN September, 1843, I sent you an article on the cultivation of sumach, which appeared in your number for October. I am pleased to inform you, and the friends of American industry generally, that the quantity sent from the south for the past year, 1845, mostly from Virginia, has been equal to about 10,000 bags, equivalent to 700 tons, being nearly one-twentieth of the consumption of the country.

I mentioned in my former essay, that the most astringent vegetables, or those containing the largest portion of gallic acid, are raised in warm climates. Now, although the sumach sent from Virginia has been used in place of Sicilian, yet that which can be raised in South Carolina, Georgia, Alabama, and more particularly Florida, would be of decidedly better quality. I would, therefore, call the attention of enterprising citizens of those States to the article, and can promise them they can cultivate no product that will pay them better.

I stated in my article of 1843, "that I had been informed sumach would not reproduce from the seed, it being a hybridous plant; but on consulting a Mr Woodward, who sent the seed of our sumach to England, he says it will reproduce, as much of the seed sent there produces bountifully." He states that it should be gathered as soon as ripe, and planted soon after, so as not to become too old. This I consider an important fact, and one which our southern planters should embrace; for by planting the seed, and mowing down the shoots three times annually, they might obtain from three to five tons per acre, with much less expense and trouble than by gathering and bringing home the natural growth scattered extensively over the country. The sumach is perennial, and when once planted would last for ages, the crop when sown

annually increasing until the ground became full of roots.

I refer those who may be desirous of cultivating sumach, to my former article, for the time of cutting, and the modes of preparing and packing the article for market.

WM. PARTRIDGE.

#### AMERICAN AGRICULTURAL ASSOCIATION.

THE regular monthly meeting of this Association was held at the Historical Society rooms, on the 7th of January. Hon. Luther Bradish, the President, in the chair. The minutes of the last meeting were read and approved.

Dr. Gardener presented a copy of the first annual report on the Geology of Vermont.

Dr. Alexander H. Stevens stated that he had sown for experiment, the clover seed received from the Society, under the name of Persian clover, at a former meeting. It proved to be lucerne. He further remarked that he had previously grown lucerne with much advantage, and considered it superior to any other green crop. A discussion arose, and many inquiries were made in relation to this crop, from which it appeared that it possessed such advantages over other crops, under favorable circumstances, as to make it an object of importance to cultivate it more generally than is done at present.

Mr. Stevens described a successful mode of destroying Canada thistles, where the roots had penetrated beyond the reach of the plow. His plan was to cultivate the ground thoroughly, and seed it down with red top grass seed, sown liberally, so that the sod should smother the young thistle, and thus prevent their growth. He also stated that he had sown some of the New Zealand spinach seed distributed by the Society. He had succeeded in raising a few plants, and found it a valuable vegetable for the table. Several gentlemen, who had also received this seed, reported that they had not been able to raise a plant.

Mr. Andrew H. Green, Cor. Sec'y, made his report. He read communications from Gov. Reed, of Bermuda, and Dr. Philips, of Mississippi, accepting the appointment as councillors of the Association; he also produced a translation of the pamphlet of Baron Von Speck, on sheep, which had been referred to him for translation. He had translated it himself, and wished the Association to consider whether it was best to publish it. Messrs. W. S. McCoun and A. B. Allen were appointed a committee to examine the translation.

Mr. R. L. Pell read a valuable essay (see a condensed report of it below) upon the subject of prepared manures, and their effects upon his crops for several successive years, after which he directed the attention of the Association to the importance of introducing the Peruvian alpaca into this country. He presented a specimen of their wool. It was moved that a committee of three be appointed to investigate the subject, and bring it before the Society at a future meeting. Messrs. R. L. Pell, J. S. Skinner, and Edward Clark were appointed.

A motion was made that a committee be appointed to inquire into the subject of the waste manures of the city, as alluded to in Mr. Pell's essay, and to suggest such means as would enable the city to be relieved of this nuisance, and at the same time benefit the agricultural community by furnishing

them with a valuable manure. Messrs. Stevens, W. S. McCoun, and S. T. Jones, were appointed as that committee.

#### *Prepared Manures, and their effect upon Crops.*—

Mr. Pell rose and said: By analysis it is known that all cereal grains, cruciferous and leguminous plants, trees, and shrubs, require in the soil the same chemical substances, but in different quantities. These are eleven, viz: potash, soda, lime, magnesia, alumina, oxide of iron, oxide of manganese, silica, sulphuric acid, phosphoric acid, and chlorine. If one be absent, the soil will not grow any cultivated plant. Hence analysis of soils is necessary for a proper and economical application of manure. In a barren soil one necessary ingredient alone might be absent. If, then, ten ingredients be added and the eleventh kept back, the soil is still barren. Hence, the reason why so much of New York will not grow wheat, and yet will grow other grain: the requisite quantity of some one or more chemical ingredients necessary for wheat is absent, but in sufficient quantity for rye, &c. When, at last, cultivated plants cease to grow, the five-finger vine appears, as it requires still less of them. In such a stage it is not rare that an expense of three dollars per acre will enable soil to produce thirty bushels of wheat. I produced 78½ bushels of wheat on a piece of worn out ground, by fifty cents worth of two ingredients. Like produces like; and hence if straw of wheat be given to the ground it will produce wheat: indeed, wheat may be grown on a pane of glass, if the seed be covered with wheat straw in a decomposing state. Hence the farmer may sell the grain but not the straw. The farmer who sells straw becomes poor; he who buys it, grows rich.

I apply straw to the cattleyard; it absorbs the liquid excrement, and rots. What is long or partly unrotted I apply to hoed crops; what is fine I mix with the eleven requisites and apply as a top dressing. It may be advisable to apply the straw to the ground and plow it in when unrotted. To grow grains give the soil straw of its kind; for potatoes, their vines; grapes, their vines; to apples their branches; and so of all. The droppings of cattle are the best manure to grow grasses, as they feed on grass; those of horses fed on grain for the growth of cereals. Onions are grown year after year by only returning the tops to the ground. In Virginia, had the refuse of the tobacco plant been returned to the soil, she would not now be barren. The bad farmer is injured by the vicinity of well manured land, as manure has an affinity for oxygen, hydrogen, ammonia, &c., floating in the air, and attracts them to the provident farmer's land.

Formerly, I applied composts of various things, and had wonderful results; I dared not omit any one, as I knew not which had produced the result. Now, science by analysis shows what is necessary. By these composts, I grew a squash to weigh 201 lbs., the heaviest on record; and a cabbage to weigh 44 lbs. By it I grew wheat to weigh 64 lbs., rye 60 lbs., oats 44½ lbs. When Sprengel made known his analysis, showing that eleven substances are necessary to all good soils, I found that my compost by chance had them all, and twenty other enriching ingredients.

Previous to 1840, my orchards bore only every other year. Since then I make them bear every



year: and this year, a bad one for fruit, found my manured trees full, and those not manured barren. The drought of this year was fatal to fruit; yet my manured trees had abundant moisture and were fruitful. I prefer the manure of decayed vegetable matter to the excrement of cattle, as the material that makes and supports the animal has been extracted, and the excrement is not so rich on that account. If the vegetable matter be rotted and its ammonia fixed by charcoal dust, all the chemical substances are present. Thus rotted vegetable matter is more beneficial than the dung of cattle, quantity and quantity alike.

A most valuable manure is the liquid remaining after the boiling of bones. It is very offensive unless disinfected. When hot it is not offensive, but becomes so when cold. It is a jelly when cold. By the application of charcoal dust to the hot liquid, the jelly when cold is not offensive. In this state it may be made into compost with other substances. In that condition it is a most valuable manure. At present large amounts of the liquid are thrown into the rivers. I prevailed upon a grinder of bones to save his liquid by charcoal, and he now sells what formerly he hired carried away. I have used it with great advantage, both on arable and meadow land.

Charcoal is one of the most valuable manures. It is the most powerful absorbent known. It takes from the atmosphere oxygen, hydrogen, nitrogen, ammonia, &c., and holds them while the weather is dry. During rain it absorbs 80 per cent of water, and releases the gases to descend to the earth to fertilize it. When the weather becomes dry it parts with the water, and absorbs from the air the gases again. This it continues almost perpetually, as it is nearly indestructible. When applied to the earth, the trees, plants, and grasses are found to have it adhering to their roots ready to impart gases and moisture as wanted. Trees packed in it have remained green for 80 days, while others without it have died in like circumstances. Hams and salt meats are preserved perfectly when packed in it. I preserved apples in perfect condition for one year in it. If spread over compost heaps, barn-yards, stable-floors, in privies, it absorbs the ammonia, prevents offensive smells, fixes the volatile gases, and thus makes a valuable compost.

Ashes applied to sandy soils are valuable; and on some soils leached are as good as unleached. I have known land too poor to grow 8 bushels of corn, made to produce 45 bush. by ashes alone; and they are more valuable on a sandy soil than any other manure except marly clay. They enable the sandy soil to retain its moisture, a great point. They are used to great advantage on Long Island and in New Jersey. They stimulate growth as does plaster. Sown broad cast on grass, the effect is perceptible at a great distance. The yield the first year on sandy soils in grass, will pay the expense of applying forty bushels to the acre. They give to the soil silicate of potash, which is needed to form stems.

Ashes have two actions on soils, viz., chemically by alkali they neutralize acids; and mechanically by rendering sandy soils more tenacious. Muck is made valuable by them, when mixed in compost; the acid of the muck is destroyed by the alkali, and fermentation follows.

Lime has been used by me to great advantage. I prefer oyster shell lime, as it contains no magnesia, which most stone lime does. I think oyster shell lime has a tendency to lessen in growth the stem and leaves, and increase the fruit and seeds. I put on barren or worn out land 300 bushels oyster shell lime and it grew wheat to a weight of 64 lbs. per bushel; with the wheat I sowed one bushel of cloverseed and half a bushel of timothy seed per acre, and the next year cut 2½ tons, and the second year 3 tons of hay per acre. I have found it of great advantage in potato culture; the potatoes do not rot in the ground, while neighboring unlimed ones *all* do. They are mealy and fine, and do not rot after gathering, and have been free of rot in dry, wet and average seasons. I think it destroys the fungus or insect, if either be the cause of rot.

Bone dust I have used and find it most valuable, and advise its use, especially on soils long cultivated, destitute of phosphate of lime; it is the most efficacious manure that can be used on an exhausted soil, but will do better on dry calcareous soil than on such as contain alumina. It should be mixed with earth to ferment before spreading. There should be used from 12 to 20 bushels to the acre. It seems best on turnips. In compost, it is valuable, as it yields phosphates largely. It is said that in England, where on lands it had been applied 20 years before, its effect could be seen to a yard. I trust the exportation of bones from our country will soon cease.

I have used guano successfully and unsuccessfully. Mixed with earth and applied to plants in close contact it was injurious; applied in weak solution to grass land and green house plants its effect was wonderful. My experience shows that *its method* of use will determine *its value*. In composts I have found it very effective.

Night soil is one of the most valuable manures. In this country, as well as in England, great prejudice prevails against its use in agriculture or gardening. For ages it has been used in Asia and particularly in China. In France, in Belgium, Bohemia, Saxony, all the German confederacy, and Sweden its destruction or waste is prohibited by law. In England and America it is thrown into the rivers to befoul them, and the fish which devour it are eaten instead of vegetables grown by it. As manure, 6 loads of it have been found to produce 650 bushels per acre of potatoes, while, on the same ground, 120 loads of horse manure yielded only 480 bushels.

In conclusion, I have to remark that the main stay of the farmer is his barnyard manure. Yet this varies in quality, according to the material of which it is made, and the manner of making. Thus the droppings of cattle fed on straw and turnips are far less valuable than those of cattle fed on hay and oil cake; and it is economy to feed hay and oil cake rather than straw and turnips. So in manuring; that which is leached by rains and volatilized by the sun is less valuable than the unleached and unsunned. But this is too extensive a subject to take up, and is so well understood by good farmers, that it is unnecessary to say more on the subject.

Mr. Pell made some further remarks on methods of cultivation, which we will report in our next.

After some business relating to the Society was transacted, the meeting adjourned.

## ANNUAL MEETING OF NEW YORK STATE AGRICULTURAL SOCIETY.

THE Society met in the Capitol on the 21st of January.

The meeting was called to order by the President, B. P. Johnson, Esq.

The Recording Secretary, L. Tucker, read the list of members present.

The Treasurer, T. Hillhouse, read the report of the Committee appointed to examine the Treasurer's accounts. The accounts were reported satisfactory.

The Treasurer then read his report. From this it appears that the

Receipts of the year 1845, including }	...	\$6,322 27
balance on hand Jan. 1, 1845, were }		
Disbursements.....	3,776 06	
Invested on bond and mortgage.....	2,000 00	5,776 06

Balance on hand Jan. 1, 1846.....	\$546 21
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Mr. Geddes reported, that the Committee on Corn had awarded the premium on corn to Geo. Vail, of Troy, 91 bushels to the acre.

C. N. Bement, chairman, reported the awards of premiums made by the Committee on root crops.

Mr. Fuller, of Onondaga Co., moved that a committee of three from each Senatorial District, be appointed to recommend suitable persons as officers of the Society for the year 1846, and to report to the Executive Committee a proper place at which the Annual Show of the Society should be held; the motion prevailed.

Mr. Cheever, of Albany Co., moved that the committee of nomination be chosen by the delegates present from each Senatorial District, each delegation to select three of its members; the motion prevailed.

The delegations then retired, and on coming in reported the committee.

L. F. Allen offered a resolution, proposing a committee to investigate and report to the Society all information, that can be obtained in reference to the dairies of this State. The resolution was adopted, and L. F. Allen, D. Lee, E. Comstock, Z. Pratt, and Wm. Walbridge, were appointed the committee.

The Society adjourned to meet at 6½ o'clock, P. M.

On convening at evening, Mr. Denniston, of the nominating committee, reported the following names, viz. :—

President, J. M. SHERWOOD; Vice Presidents, R. H. LUDLOW, A. BOCKEE, E. P. PRENTICE, T. I. MARVIN, P. JONES, J. M. SPEED, H. S. RANDALL, and LEWIS F. ALLEN; Recording Secretary, LUTHER TUCKER; Corresponding Secretary, JOEL B. NOIT; Treasurer, T. HILLHOUSE; Executive Committee, A. CONCKLIN, GEO. VAIL, AML DOUBLEDAY, A. STEVENS, and J. MILLER.

Mr. Hillhouse declined, and J. M. D. McIntire was substituted, and the nominees were elected by the Society.

The committee recommended Auburn as the place for the next Show.

The Society then adjourned to the next day.

On the 22d, the Society met and heard reports from its officers and various committees, and adjourned to evening, when the President delivered

the annual address. The new officers were then installed, and after the passage of some resolutions and some interesting discussion, the Society adjourned.

On the 22d, the Executive Committee met, and adopted the recommendation of the nominating committee, and selected Auburn as the place of the Show for this year. Mr. Tucker resigned the duties of his office, and they were devolved on the Corresponding Secretary.

## PERUVIAN GUANO.

I HAVE seen in the Baltimore American, National Intelligencer, and other southern papers, an advertisement, offering for sale the cargo of *Guano* imported into New York in the *Caroline Amelia*, "as *Peruvian Guano*, from the *Chincha Islands*;" and that the farmers of the United States may not be imposed upon in the purchase of this manure, I beg leave to avail myself of your journal to enlighten them on this subject.

The *Caroline Amelia* was loaded under a license from the *Chilian Government*, at a distance of nearly a thousand miles from the *Chincha Islands*, and her cargo is of a quality far inferior to that obtained in Peru. Indeed, much of that sent to England from the same place has been found to be entirely worthless, from exposure to the rain where deposited; and from being strongly impregnated with salt, from the beating of the surf against the low rocks where it is gathered. Another vessel, the *Wodan*, under the Danish flag, was also loaded at the same place for the United States, and the same imposition may be attempted with her cargo.

The only genuine *Peruvian Guano* sent to this country, is shipped at the *Chincha Islands*, by the *Peruvian Guano Company*, under authority of the *Peruvian Government*, and all to my consignment. It will be received by me at New York, or by Mr. SAM'L K. GEORGE, at Baltimore. Any other offered as *Peruvian*, is spurious, and our farmers must be cautious to ascertain the origin of what they buy to avoid imposition.

The only two cargoes of *Peruvian Guano* now in the United States are those of the *Orpheus* and *Coquimbo*. The ships *Regulus*, *Troy*, and *Mississippi*, are expected to arrive with further supplies, here or at Baltimore, in the course of the spring.

Enclosed I send you the analysis of a sample of this *Chilian Guano* by Dr. Chilton of this city:

Phosphate of Lime.....	52.65
Carbonate of Lime.....	8.12
Silica	} Stony matter... 16.22
Alumina, &c.	
Chloride of Sodium.....	5.36
Sulphate of Soda.....	4.41
Sulphate of Ammonia,	} ..... 4.16
Phosphate of Ammonia,	
Muriate of Ammonia,	
Urate of Ammonia,	
Undecomposed Organic Matter...	3.88
Water and loss.....	5.20

100.

EDWIN BARTLETT.

New York, Jan'y 13, 1846.



## Ladies' Department.

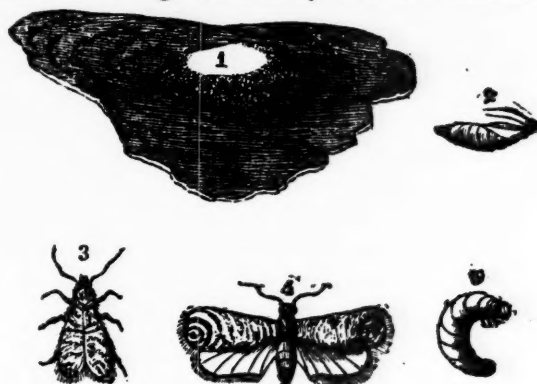
## INSECTS.—No. 1.

SINCE some of the pages of your periodical have been devoted to the ladies, it has occurred to me, that extracts from an unpublished journal of an Old Lady, which has lately fallen into my possession, might frequently afford useful hints to farmers' wives, and occasionally throw light on some of those subjects that are beginning to attract the attention of practical farmers, as well as scientific men. The writer of this Journal appears to have spent a long life in the country, devoting herself to homely pursuits and useful studies—and taking for her motto—"Whatever is worth *doing*, is worth doing *well*." She pretends to little scientific information; but appears devotedly fond of the contemplation of the operations of nature, as presented to her view—whether it be in the changing clouds and skies—the still forest—the useful field and garden—or in the homely kitchen and its fire-side combinations. But, above all, the study of the insect world appears to have been her peculiar delight, and to this she seems to have devoted many of her leisure hours, carefully noting down any interesting fact that has fallen under her notice. To this portion of her journal I will now call the attention of my country-women, hoping that the observations of this good old lady may not only amuse and interest, but induce some to follow her example, and find in the book of nature their chief happiness.

Feb. 1st.—A fine cold day—must go and see what my friends the woodpeckers are about, as there are an unusual number employed among the fruit trees—amply paid for my trouble, and have gained subjects for thought to amuse me for a month. Having noticed that the woodpeckers were most busily engaged on the oldest fruit trees and those that had the roughest bark, I chose a large old apple tree for my observations, and with my pruning knife, which I always carry with me, carefully raised the loose bark. For some time I could detect nothing that could interest either me or a woodpecker; but at length I discovered a little dark substance resembling coarse mud-colored silk, which appeared to glue a piece of loose bark to the tree. On removing it carefully, I found the coarse, dark cover, beautifully lined with soft white silk, forming a bed and cover to a little reddish brown worm, which appeared fast asleep, and carefully cradled for the winter. Pursuing my search further, I found many more; but some had undergone a change, and become what the entomologists call a chrysalis. (See 5, Fig. 14.) Here, then, was a reason for the visit from the woodpeckers, who had found out the secret before me.

But who is the little worm, and to what family does he belong? Of this the woodpeckers know nothing, and the worm is fast asleep. I must try and find out. On carefully examining my little prisoner, I find a strong resemblance to a troublesome family that has annoyed me all summer, commonly called apple worm, some of whom are still lingering in the cores of my winter store apples. I must look further into this matter, and see what are his future intentions.

12th.—Having secured my little prisoner, the apple worm, which I captured on the 1st, in a box, and placed in a warm room beside one containing several apples with worms in them, I find they have anticipated spring, and some have gratified my curiosity by appearing in their spring dress. They are now beautiful little dark brown moths, and, as I suspected, all of the same family, deserving to be better known than I believe them to be among the farmers, though well known to the entomologists as the *Carpocapsa pomonana*, one of the family of the *Tortrix*. I will therefore refer to my previous observations on this family, and describe them at length; and that I may be better acquainted with them in future, I will sketch their portraits in their various disguises as they now lie before me.



APPLE MOTH.—FIG. 14.

1, Cocoon or silk covering, on the bark; 2, chrysalis; 3, perfect moth, at rest; 4, moth on the wing; 5, worm.

*Moth.*—The upper wings of this little moth (4) are of a light grey color, beautifully pencilled and mottled with dark brown dots and wavy lines; the back margin is ornamented with a large reddish brown spot, surrounded with a border of reddish brown gold, edged with a sparkling brown fringe. The under wings are of a light brownish red, shaded into a light dusky yellow, with a sparkling lustre, and bordered by a fringe. The body is light brownish grey, pencilled with dark brown lines, like the upper wings. The chrysalis (2) is a bright reddish brown; the cocoon (1), a dark brown flattened oval silk ball, closely woven to, and surrounded by, the bark.

In the months of May and June, great numbers of these little moths may be seen at rest on the trees or concealed among the grass during the day; but as evening approaches, they begin their work of destruction, by depositing their eggs on the young fruit, always choosing the firmest and best as food for the future grubs. The eggs are usually deposited near the blossom or hollow of the apple, near the stalk. In a few days the eggs are hatched, and the little worms enter the young fruit, where they feed for three or four weeks; they then leave the fruit whether it has fallen or not from the tree, and find for themselves a home, usually under the bark of the tree, where they spin their beautifully and curiously contrived covering, to shelter themselves during their helpless state. In a few days the little grub changes first to a chrysalis, then to a moth, and comes out to deposit her eggs on the remaining fruit, which will be destroyed in proportion to the

quantity of wormy fruit, which contained the first generation, that had been suffered to remain on the ground or tree. The grubs of the second generation, which do not leave the fruit until September, either perish, or remain in the chrysalis state under the bark, until spring recalls them to life and mischief.

But though thus beautifully and curiously guarded from observation in their helpless state, they have hosts of enemies, whose prying eyes discover them through their dark and close disguise. The woodpecker and his troop of feathered friends the sparrows, sapsuckers and wrens, with their restless wings and hungry beaks prying into every dark cranny, learn early from their unerring teacher, Instinct, that good and wholesome food is to be found beneath the uninviting dirt-colored mantle that the poor worm had vainly thought to shelter itself under. Then a little wasp-shaped insect, called *ichneuman*, knows right well from the same teacher, that there lies the best food for her young ones—so with a long horsehair-like appendage which she carries, she penetrates the tough silk cover, and deposits her eggs in the body of the worm so ingeniously, that the life of the worm is not endangered until the *ichneuman*-grub has gained maturity, when the apple worm dies, and the *ichneuman* commences its life of useful destruction. Nor are these all; the little despised and grim-looking crab-like spider, found under the bark of trees and in little dark crannies, is always on the watch for the apple moth as soon as it makes its appearance in the spring—and many hundreds fall victims to these much-abused, but most useful little creatures.

OLD LADY.

#### COUNTRY SCHOOLS.

I RESPECTFULLY request the favor of a corner in your Ladies' Department, for the purpose of pointing out what seems to me to be a very erroneous conclusion of your correspondent, E. S., in the December No. of your last volume, in reference to the education of farmers' children. After advertizing to the "melancholy fact, that most of our country schools are miserably deficient in teachers capable of imparting a knowledge of anything above what the children of the poorest day-laborer should be familiar with," she recommends as the best substitute for maternal instruction, the union of two or more neighboring families in the employment of a governess of suitable qualifications—intellectual and moral—and proceeds to intimate that young ladies possessed of these qualifications, and "likely to be dependent on their own exertions, are at the present time educated with the express view of their becoming teachers," and that "consequently, there will be less difficulty in procuring persons competent to the task assigned them." Now permit me to ask "E. S." whether the object she has in view—the proper education of the children of farmers and others residing in our rural districts, would not be much better and more permanently promoted, by increasing the number both of young gentlemen and ladies now obtaining in the Normal schools in our own and the eastern States, those qualifications which shall fit them to become competent teachers, and when thus qualified placing them with an adequate compensation in charge of the district schools?

If "E. S." will visit the noble institution now in successful operation in this city exclusively devoted to this object, I am very sure she would not desire to restrict the benefits which this class of teachers are competent to bestow on a few families only. I venture to assure her that the time is not far distant when it will be in the power of every school district in the State, to avail itself of the services of teachers thoroughly impressed with the responsible duties of their station—intellectually and morally prepared for their discharge—and capable of training the expanding minds of our youth in every department of science, from the lowest to the highest.

There is one more consideration to which I deem it proper to advert in this connection, and that is this: Neither the States of Massachusetts nor New York would probably feel disposed to incur the heavy expense of supporting institutions of this kind, so beneficial in their tendency, and useful in their results, if those for whose education they have thus liberally provided, were to limit their field of labor in the cause of education to some two or three families in each district, who could best afford to compensate them for their superior attainments. The irresistible effect of such a measure would be effectually to destroy the district school, not only by withdrawing from its support those most able to encourage and sustain it, but by preventing the employment of teachers who alone are capable of doing adequate justice to their high profession.

If, in addition to the State Normal School, at Albany, a similar one could be located in the western portion of the State, embracing within its design a practical course of instruction in agricultural science, the results could not fail, in my judgment, to prove beneficial. But I fear I am exceeding the proper province of a lady, in suggesting such an extension of our system of public education, and I therefore leave this point to the "lords paramount," contenting myself with an earnest protest against the plan of monopolizing the best teachers in a few wealthy families, at the hazard of perpetuating ignorance in the residue. "E. S." will, I am confident, on more mature deliberation, coincide in this view of the subject. S. H. R.

Albany, N. Y.

**TO PROTECT TENDER PLANTS AND EVER-BLOOMING ROSES IN WINTER.**—Bury well rotted old manure over the roots, but not in contact with the stem; cover the ground about the plant with stones, to keep in the heat, and stick cedar bushes about them, to protect the tender stems. This is a much better method than tying them up with straw, or boxing with leaves, as in either case they are often injured by damp and heat.

**TO WASH FLANNELS.**—Make two tubs of strong soapsuds, and wash the pieces while it is as hot as the hands can bear it. Rinse in hot, soft water, wring lightly and shake well, and hang where they will dry quickly. Do one piece at a time; for if allowed to become cold while wet, and then again hot, the flannel will inevitably shrink and become harsh. When nearly dry, fold them very smooth, and press with a hot iron.



## Boys' Department.

### POULTRY FEEDING FOUNTAINS.

Our young readers will recollect that we gave them a cut (fig. 7) of one of these fountains in our last No., and promised them a description of it. Here it is:

It can be made to contain any quantity of grain required, and none wasted. When once filled it requires no more trouble, as the grain falls into the receiver below as the fowls pick it away; and the covers on that which are opened by the perches (the principles of which we do not understand), and the cover on the top, protect the grain from rain, so that the fowls always get it quite dry; and as nothing less than the weight of a hen on the perch can lift the cover on the lower receiver, rats and mice (which are very troublesome when grain is fed in the ordinary way) are excluded. It is astonishing, too, with what facility the fowls learn to leap upon the perches, and so open the cover of the receiver, which presents the grain to their view and within their reach. On their leaving the porch or platform, the door, either by a spring or weight, closes at once.

From that figure Mr. Bement says he had one constructed, of which the following cuts are a fair representation.



FIG. 15.

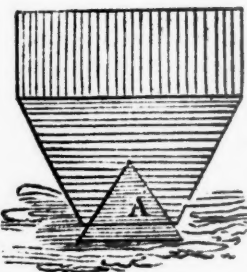


FIG. 16.

This feeding hopper, as may be seen in fig. 15, is four square, two feet each way—posts eighteen inches long and two inches square. The upper section of the box is six inches deep, and the sides are morticed into or nailed to the posts. From the bottom of this square the slanting part or tunnel reaches to within half an inch of the floor, which should be six inches from the ground; the tunnel tapers from two to one foot; and in order to bring the grain within reach of the fowls, a cone (fig. 16, A, is a section) is placed in the centre, as much smaller than the hopper as to leave half an inch space all

around, which conducts the grain to the edge, where, as the fowls pick the grain away, more will fall, and keep a constant supply as long as any is left in the hopper. The slats on the sides prevent the fowls from getting in or crowding one another. This fountain will hold two bushels or more of grain, and protects it from wet and in a measure from rats. It occupies but little room, and from sixteen to twenty fowls can feed at the same time.

To protect the grain more effectually from rats and mice, we would suggest that the posts be made some two feet longer, and a platform of boards about one foot wide, placed round and fitted close up to the bottom, so that mice cannot climb up the posts and get in. This platform will be necessary for them to stand on when eating.—*Amer. Poult. Companion.*

### THE MEMORY.

THE head has been often compared to a storehouse, and a very fit emblem it is. A storehouse when first built is empty, and ready to receive all kinds of goods, some precious, and some totally worthless; and very often it stands without much of anything in it, in which case it is worth little or nothing to the owner; at other times it may be so lumbered up with different kinds of goods as to render it difficult to get at what you want—there is no order or arrangement within the walls. Some there are whose heads seem to be like an old garret, full of everything but what is useful; how important then for a boy when young to store his head with that which is useful, by disciplining his thoughts, and let nothing rest in his brain but what is calculated to be of future use. Some boys have a habit of forgetting everything they are told to do, and when asked, will say—"Oh, I forgot it." If you send them to turn out the horses, they will put them into the cow pasture; if the cows are to be turned out, they will surely be turned into the horse pasture; the pigs they will put into the poultry yard, to eat up all the chickens, ducklings, and goslings; and the sheep they will turn into the street to be killed by travelling dogs. I once knew a boy sent to yoke up a pair of cattle, put the yoke on *under* instead of *over* the necks of the cattle, and then wondered they could not draw well; sent to harrow a field of grain, and he was found going over it with the teeth *up* instead of *down*, and thus was the day's work of himself and team totally lost, and the harrow greatly injured. All this was owing to carelessness and forgetfulness entirely—habits which are extremely injurious to the characters of too many boys whom I know in my neighborhood.

Do one thing at a time, and do that properly and well. Be quick, but never in a hurry. Always pay the strictest attention to orders, and execute them to the letter, unless something unforeseen should arise, making it improper to do so, and which can be satisfactorily explained to your employer. Be kind and obliging in all your actions, and strictly adhere to the truth in all your conversation, and you will be beloved and respected by all. This I have known from long experience, and am therefore anxious you should also know it.

A FATHER.

## FOREIGN AGRICULTURAL NEWS.

By the steam-ship *Hibernia*, we are in receipt of our foreign journals to January 4th.

**MARKETS.**—*Ashes* a slight improvement. *Cotton* has advanced  $\frac{1}{2}$ d. per lb. The stock at Liverpool, on the 1st of January, was 1,055,270 bales, against 903,107, same time last year. *Flour* no change in prices. *Provisions* remain the same as per our last, and meet with a ready sale. *Guano* is quite firm, and a large trade anticipated in it the coming year. *Naval Stores* little doing. *Rice* dull. *Tallow* the same. *Tobacco* firm. *Wool* in fair request, and an increased market anticipated for it.

**Money.**—The rate of interest for first-rate paper was from  $3\frac{1}{2}$  to 5 per cent., which is an advance.

**The Potato Crop.**—The alarm respecting the deficiency in this crop is on the decrease; there seems to be no great distress for provisions in Ireland.

**The Corn Laws.**—The Peel ministry being reinstated in power, there is little prospect of the corn laws being abolished at present. It is supposed that a fixed duty of about ten shillings per quarter will finally be settled upon.

**Smithfield Show of Fat Cattle.**—This came off in December, and was well attended. A Hereford ox took the first prize of the gold medal.

**The Income of the English Agricultural Society** the past year reached the large amount of £9,291, over \$46,000! It has 6,733 members, and is adding to them and its funds every year; thus doing an incalculable amount of good to the farming interest.

**To Sweeten Butter.**—By adding  $2\frac{1}{2}$  drachms of carbonate of soda to 3 lbs. of either fresh or salt butter, possessing a disagreeable flavor, renders it perfectly sweet. Soda produces the same results when added to other culinary greases, as dripping, lard, &c.—*Far. Herald.*

**Vines in Dwelling-houses.**—A singular instance of the growth of a vine may be seen at the Angel Inn, Halesworth, Suffolk; a large portion is trained in the front of the house and stables, but a branch 23 feet in length is conveyed through the windows of a sitting-room, crossing the ceiling to the centre of the house, where it is trained to a lofty skylight, producing fruit in abundance. Might not some of our mechanics and others enjoy this delicious fruit, by introducing the vine in their work-shops in a similar manner?—*Gar. Chron.*

**On the Choice of a Variety of Oat for Cultivation.**—Strongly suspecting that the real value of different varieties of oat was unknown, and that weight by bushel was even less applicable to this grain than to wheat, I procured samples of nine sorts, carefully selected by Messrs. Lawson, of Edinburgh. I have not had them compared chemically; I leave that to those great and wealthy bodies, associated for the ostensible purpose of conferring benefits on the farmer. I have followed a simple mechanical process, which any one may follow. The weight of each sort per bushel having been ascertained, the following table was constructed according to the results:

	Weight per bushel of	lbs.
Siberian Oat.....	45	
Sandy.....	52 $\frac{1}{2}$	
Kildrummie.....	42	
Early Angus.....	42	
Hopetoun.....	41	
Potato.....	41 $\frac{1}{2}$	
Early Dyock.....	40 $\frac{1}{2}$	
Late Angus.....	40 $\frac{1}{2}$	
Black Tartarian.....	39	

The useful part of the oat being the kernel, and it being probable that the proportion of the weight of the husk to that of the kernel might vary so much as to render the weight per bushel a deception, 100 parts

by weight of each sort were taken, and the husk and kernel carefully separated. The following table shows the result:

In 100 parts by weight.

	Husk.	Kernel.
Sandy Oat.....	21 ..	79
Early Angus.....	21 ..	79
Late ditto.....	21 $\frac{1}{2}$ ..	78 $\frac{1}{2}$
Potato.....	22 ..	78
Early Dyock.....	25 ..	75
Black Tartarian....	25 ..	75
Hopetoun.....	26 ..	74
Kildrummie.....	28 ..	72
Siberian.....	31 ..	69

It is curious that the oat at the head of the first table should be at the bottom of the second. There may be as great difference among oats as among wheats in regard to their nutritive qualities, and until this shall have been ascertained by the chemist, we shall not know the real comparative values. In the meantime, there need be no hesitation in preferring the sandy oat over all others, as it is very early and very productive in grain and straw.—*Ibid.*

**Horticultural Expedition to China.**—Advices from Mr. Fortune, dated Shanghai, August 16, mention that he had returned from the river Min, and was busily engaged in gathering together his collections of plants left at Ningpo, Chusan, and other places, preparatory to his return to England, where he is expected in April or May next. His plants are described by him as being extremely valuable; and he had decided upon bringing the whole of them home under his own superintendence. He had been in the black tea country, and had witnessed the process of preparing the leaves; he had been seriously ill with fever, from which he was recovered; and on his passage from the Min to Chusan, he had been twice attacked by pirates, who, however, were on each occasion driven off by himself, unassisted by his cowardly Chinese crew.—*ib.*

**How to Preserve Rhubarb.**—My method is to take a quart bottle with a wide neck, and to cut the stalks small enough to go into the bottle; I add brayed loaf sugar and tie a piece of bladder tight round the neck, I put as much water into the copper as will immerse the bottles, get the water to boil just over the bladder, then rake out the fire, and let the bottles remain in till cooled; I then take them out, place them on a dry shelf, and use the bottle at once.—*ib.*

**Soap as a Manure.**—Having seen in some late number of your excellent Paper some discussion on the value of soap as a manure, I am inclined to give you my experience in this matter. I am a silk dyer, and use about 15 cwt. of soap weekly to discharge the gum and oily matter from the silk before dyeing. I also use about 1 cwt. of soda to 3 cwt. of soap, which I presume unites with the oily matter of the silk, forming a species of soap. The result is, that I produce from 4000 to 6000 gallons of strong soap suds per week; and having a small farm, I have latterly applied the whole of this to my land, and its effect is most extraordinary. My experience in its use has been only one season, and I cannot, therefore, give any comparative results; but I consider it more powerful than any manure that I am acquainted with. If any of your readers will do me the honor to come and see my land next spring, when vegetation begins to move, they will have ample evidence of the value of soap as a manure; and if farmers were allowed the drawback of the duty on soap used as a manure, in the same way that we manufacturers are allowed it by the government, there is no doubt in my mind that soap would soon supersede the use of guano.—*Ag. Gaz.*

**Large Cabbages.**—Six cabbages of the flat-pole kind were recently raised by Mr. Toms, of Saltash, weighing 61, 59, 57, 56, 54, 50=337 lb.



## Editor's Table.

**CULTURIST.**—We are favored with the first No. of a new agricultural paper under the above title, published by Wm. J. A. Bradford, Baltimore, Md., at one dollar a year. It is 16 pages quarto, and very neatly got up. Mr. B. has our best wishes for his success; but why not carry his patronage to the old established American Farmer? There are no publications so poorly paid as the agricultural, and instead of starting new ones, would it not be better to get a stronger support to those already in existence? Independent of collateral business, we do not believe there is a purely agricultural paper in America that is more than paying expenses—and seven-eighths of them are not even doing that. We have placed the Culturist on our exchange list.

**THE MECHANICS' MIRROR.**—This is a beautiful octavo monthly of 28 pages, edited by Robert McFarland, Esq., and published by John Tanner, Albany, N. Y., at one dollar a year. The matter in the first No. at hand, is highly valuable, not only for the mechanic, but for the general reading of families. The work is well arranged for popular favor, of which we hope it may find much, for its appearance certainly promises it to be highly deserving.

**PERUVIAN CORN.**—Edwin Bartlett, Esq., of this city, has kindly given us five barrels of Peruvian Corn, recently sent him from that country. It has the largest sized grains of any we ever saw before, and is quite a curiosity. There are two kinds: one called by the Peruvians, *maiz blanco* (white corn). This is the Chancay corn used for fattening pigs. It is a coarse, inferior article, but grows very rank and strong. The other kind, *maiz amarillo* (yellow corn), from Huacho, is large and fine, and is said to make the sweetest kind of bread. Mr. Bartlett informs us it is a great yielder. Any one wishing a quart or two of this corn for experiment, can have the same gratis, by calling at our warehouse, No. 187 Water Street. We are of opinion, it will do best south of the Potomac, as it is a southern corn.

**OLON ROBINSON, Esq.**—We regret to say, that just before this eminent friend of agriculture was ready to start on his agency for this paper, and our agricultural establishment, he was seized with a violent fever, which reduced him very low for a time. When he last wrote us he was convalescent, and our readers will see that he has made some happy efforts for their amusement and instruction in this No. of our paper. We trust he is on his way to New Orleans, by this time, via the Ohio and Mississippi rivers. Thence, if his health grows better, he will find his way through lower Alabama to Florida, and so north, as the spring advances, through Georgia, the Carolinas, &c. We are much obliged to our southern friends who have offered him so kindly a welcome, and shall request him to call upon them on his route hither.

**WESTERN NEW YORK AGRICULTURAL SCHOOL.**—Dr. Daniel Lee, of Buffalo, editor of the Genesee Farmer, has made arrangements with Gen. Rawson Harmon, to open an Agricultural School at the residence of the latter in Wheatland, Monroe County, N. Y., on the 1st of May next, to teach the science and practice of agriculture. The farm of Gen. Harmon contains 200 acres of improved land, which is under excellent cultivation in the various kinds of crops suitable to the climate. Dr. Lee thus speaks of their undertaking in his prospectus.

“Great pains will be taken to ascertain what animals furnish the most profitable *living machinery* for changing grass, grain, roots, straw, &c., into milk, butter, cheese, beef, pork, mutton, fat, and wool. To impart a thorough knowledge of the organic structure of

all this machinery, and of the office or function performed by each organ, there will be minute dissections of all domestic animals. A museum, illustrative of the anatomy and physiology of all the living things which the farmer labors to produce, and keep in a healthy condition, will also be formed. Lectures will be given in these departments of natural science, and no pains will be spared to render their study both interesting and truly useful. Work in a chemical laboratory for the analysis of soils, manures, fertilizers, and all vegetable and animal substances, will form an important department in the school. Lectures will be given in this branch of science with the view to prepare teachers of academies, and common schools, to introduce the study of agricultural chemistry into these seminaries of learning. A suitable text book, and a cheap apparatus for the use of school teachers and private gentlemen, have long been in a course of preparation. Agricultural geology will also be taught. A full course of study and practice will occupy four years; during which, the pupil will be required to keep in his own handwriting a journal of his studies and progress, and an accurate debit and credit of all farm operations. He will be charged for his board and tuition, washing, &c., and credited at a fair price for whatever service he may render on the farm. But we cannot promise *work* and *pay* for all that may offer. The object of the proprietors of this school will be to turn the labor of young men to the best possible account, and to give them the full benefit of their skill and industry.

“The price of board, washing, lodging, lights, and fire wood, will be from \$1.50 to \$2.00 per week. Tuition from \$8 to \$12 per quarter. This will include instructions by Gen. H., as well as the editor's lecture fees.”

From the well known characters of Gen. Harmon and Dr. Lee, we have no doubt that they will keep an excellent Agricultural School, and one highly deserving the patronage of the public. The pages of this periodical will bear witness to the zeal with which we have continually advocated them, and we are rejoiced to be able to announce that one is at length to be established in this State. We hope it may meet the patronage that it is sure to merit, and that it may be followed by others throughout the country. It is high time that farmers' sons were taught their business *scientifically* as well as *practically*. We are of opinion that, ten years hence, people will look back with perfect wonder that agricultural schools were not established at the first settlement of the country.

**THE PRESENT NO. OF THE AGRICULTURIST.**—It is not often that we praise our own paper, but we think the present No. contains several very able articles. We would especially point to that on “Hereford Cattle,” and the one containing “Mr. Pell's Essay,” read before the American Ag. Association the past month. Let no one be deterred from perusing them by their length; for they have been prepared after much study and thought on the subjects of which they treat. We do not intend to make our periodical a light ephemeral, but a work of instruction to be read and studied as a book.

**ACKNOWLEDGMENTS.**—We are indebted for the Transactions of the Hampshire, Hampden, and Franklin Agricultural Society for 1845; for the Address before the Hartford County Agricultural Society by Hon. I. W. Stuart, together with the Transactions of the same for the past year; for the Brockville Recorder, C. W., containing an account of the Johnstown District Agricultural Show, in October last, which must have been a highly spirited affair.

**TO CORRESPONDENTS.**—J. D. Williamson, L. Persicus, A Subscriber, Solon Robinson, E. S., Benj. N. Huntington, and Henry Watson, are received.

## REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JANUARY 26, 1846.

ASHES, Pots,.....per 100 lbs.	\$3 87½	to	\$4 00
Pearls,.....do.	4 12½	"	4 19
BALE ROPE,.....lb.	5	"	7
BARK, Quercitron,.....ton.	26 00	"	26 50
BEANS, White,.....bush.	1 12	"	1 25
BEESEWAX, Am. Yellow,.....lb.	28	"	33
BOLT ROPE,.....do.	12	"	13
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	16	"	25
Shipping,.....do.	9	"	13
CANDLES, Mould, Tallow,.....do.	9	"	11
Sperm,.....do.	25	"	38
Stearine,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	12
COTTON,.....do.	6	"	10
COTTON BAGGING, Amer. hemp,....yard,	13	"	14
Kentucky,.....do.	12	"	13
FEATHERS,.....lb.	26	"	34
FLAX, American,.....do.	7	"	8
FLOUR, Northern and Western,.....bbl.	5 50	"	5 87
Fancy,.....do.	6 50	"	6 87
Southern,.....do.	5 50	"	5 87
Richmond City Mills,.....do.	6 62	"	6 75
Rye,.....do.	4 25	"	4 38
GRAIN—Wheat, Western,.....bush.	1 20	"	1 30
Southern,.....do.	1 15	"	1 25
Rye,.....do.	79	"	81
Corn, Northern,.....do.	68	"	70
Southern,.....do.	67	"	69
Barley,.....do.	65	"	68
Oats, Northern,.....do.	46	"	48
Southern,.....do.	38	"	40
GUANO,.....do.	2 00	"	3 00
HAY, in bales,.....100 lbs.	90	"	95
HEMP, Russia, clean,.....do.	190 00	"	195 00
American, water-rotted,.....ton.	105 00	"	185 00
American, dew-rotted,.....do.	75 00	"	125 00
HIDES, Dry Southern,.....do.	8	"	10
HOPS,.....lb.	20	"	35
HORNS,.....100.	1 00	"	7 00
LEAD,.....lb.	4 50	"	4 56
Sheet and bar,.....do.	4½	"	51
MEAL, Corn,.....bbl.	3 75	"	4 00
Corn,.....hhd.	17 50	"	18 00
MOLASSES, New Orleans,.....gal.	23	"	29
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	2 25	"	2 38
Pitch,.....do.	1 25	"	1 38
Rosin,.....do.	1 00	"	1 25
Turpentine,.....do.	3 50	"	5 60
Spirits Turpentine, Southern,.....gal.	63	"	75
OIL, Linseed, American,.....do.	67	"	68
Castor,.....do.	57	"	68
Lard,.....do.	70	"	75
OIL CAKE,.....100 lbs.	1 75	"	1 88
PEAS, Field,.....bush.	1 50	"	2 00
PLASTER OF PARIS,.....ton.	2 50	"	2 63
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	7 00	"	9 00
Prime,.....do.	4 50	"	5 50
Smoked,.....lb.	6	"	9
Rounds, in pickle,.....do.	4	"	6
Pork, Mess,.....bbl.	12 00	"	14 12
Prime,.....do.	9 00	"	11 00
Lard,.....lb.	7½	"	8½
Bacon sides, Smoked,.....do.	3	"	4
In pickle,.....do.	3	"	4
Hams, Smoked,.....do.	6	"	10
Pickled,.....do.	4	"	7
Shoulders, Smoked,.....do.	5	"	6½
Pickled,.....do.	4½	"	5
RICE,.....100 lbs.	4 10	"	5 52
SALT,.....sack,	1 35	"	1 40
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	10	"	13
Timothy,.....7 bush.	16 50	"	21 00
Flax, rough,.....do.	10 00	"	10 50
clean,.....do.	11 00	"	11 50
SODA, Ash, cont'g 80 per cent. soda,....lb.	3	"	3
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	5	"	8
SUMAC, American,.....ton.	35 00	"	37 50
TALLOW,.....lb.	7	"	8
TOBACCO,.....do.	3	"	7
WHISKEY, American,.....gal.	24	"	25
WOOLS, Saxony,.....lb.	35	"	50
Merino,.....do.	30	"	35
Half blood,.....do.	25	"	30
Common,.....do.	20	"	22

## NEW YORK CATTLE MARKET—Jan. 26.

At Market, 1100 Beef Cattle (250 from Pennsylvania), 50 Cows and Calves, and 2000 Sheep and Lambs.

PRICES.—Beef Cattle—Last week the market exhibited considerable spirit, and buyers operated very freely. At the close of the week's business (Monday evening) not more than 200 remained unsold. We quote inferior to middling qualities, \$4.50a\$5.00; superior and prime ditto, \$5.50a\$6.00; sales of a few extra are reported at \$7.

COWS AND CALVES.—The offerings for the last week were rather limited, but all at market were taken at prices ranging, according to quality, from \$15 to \$30a\$32.

SHEEP AND LAMBS.—\$1 50a\$3.50 may be quoted as the extremes of prices. A small number left over.

HAY.—In consequence of the recent snow storm preventing supplies reaching the city, the stock on hand is very small. A good article readily commands \$1.12½ per cwt.

REMARKS.—Ashes firm. Cotton is steady, and no change in prices since the late news. Export since 1st September last, 457,930 bales; same time last year, 558,506; same time year before, 307,918. Flour is inactive. Stock on hand in this city about 235,000 barrels. Grain of all kind in moderate demand. Provisions firm, but little doing in them. Of other articles we have nothing worthy of record, this being the dullest month of the year for all kinds of business.

Money is tight, although there is no great distress for it.

Stocks slightly on the advance.

The Weather has been quite mild this month, with the exception of one heavy fall of snow, giving us a single week's sleighing.

TRANSACTIONS OF THE N. Y. STATE AG. SOCIETY.—Just as I was ready to issue the Extra spoken of page 38 of the last No. of this periodical, for reasons which will be stated hereafter, the publication of it was suspended for the present. Whether it will be issued or suppressed will depend entirely on circumstances. I am deeply obliged to my numerous friends for the interest they have taken in this matter, and can assure them one and all, that their kind expressions and encouragements are gratefully remembered. If it be found necessary to issue the Extra hereafter, they shall have due notice of it, and be supplied in any quantity for distribution. I promise them if it ever does see the light, with the additions I can now make to it, they will find it as rich and spicy an *expose* as ever appeared in the annals of agricultural literature. Still it is my wish that I may not be forced to say anything more. *All now rests with the adverse party. The developments of the last ten days fully content me.*

A. B. ALLEN.

TO AGRICULTURAL SOCIETIES.—With a view of aiding these Societies, and more extensively benefiting the farming community, it will be seen by reference to our advertised terms on the last page, that the publishers offer the Agriculturist at the very low price of FIFTY CENTS a year for the monthly numbers, and SEVENTY-FIVE CENTS per copy for bound volumes, when ordered for premiums or distribution among the members. With these liberal terms we hope henceforth to see our periodical in the hands of every farmer and planter in the country. We earnestly call upon our friends to exert themselves and spread the Agriculturist in every quarter. Agents will also be supplied on the most liberal terms. Address Saxton & Miles, 205 Broadway, New York.

CASTS OF THE PRIZE SHORT-HORN HEIFER.—We have ordered a few more of these superb casts for our friends, and will supply such as apply soon. The price will be \$4 each, delivered at our warehouse, or \$5, boxed and shipped.

## IMPROVED STOCK FOR SALE.

The subscriber breeds on his farm for sale, the following animals of the choicest kind, viz.:

Durham Cattle,  
Devon do.  
Cotswold Sheep  
Southdown do.

His farm is large, and his herd and flocks numerous, which enables him to give an excellent choice. He is paying particular attention to the *milking* qualities of his cattle, both among Durhams and Devons. His sheep also are not only bred for fine forms and strong constitution, but heavy, thick fleeces of a good quality of wool. His residence is two-and-a-half miles from Buffalo, and is reached in ten minutes by railroad.

Black Rock, Erie County, N. Y.

LEWIS F. ALLEN.

## COUNTRY RESIDENCE.

The house, garden, and outbuildings of the late Mr. William Cleveland, are offered for sale at a great bargain. The situation is a most desirable one for a person having children to educate, being within a few rods of an excellent high school, in the First Society of the town of Norwich, Conn. The house will accommodate a large family, or two small ones, having two kitchens, two gardens, &c., &c. The water is excellent both for drinking and washing. For particulars inquire of Henry Strong, Esq., or George D. Fuller, of Norwich, Conn., or

A. B. ALLEN, 187 Water Street, New York



**LAWRENCE'S TONGUELESS BUCKLE.**

The Subscriber offers for sale the above patent buckle in any quantity, in all parts of the United States, except Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, and so much of New York as lies west of the Hudson river. The right to make the buckles for all Pennsylvania and New York belongs solely to the subscriber, and he will furnish buckles to all who own rights to sell and use in those two States; and they must procure them of the subscriber. Persons in those two States, who wish buckles, must furnish to the subscriber a certificate of the patentee, that they own the right to sell or use. For an account in full of this buckle, which is superior to all others, see the American Agriculturist for Sept., 1845. The buckle being without a tongue, the trace is not weakened by cutting holes in it; it is a compound lever, and holds the trace by pressure, and as the pressure condenses the trace it makes the trace stronger, just where the buckle having a tongue makes it weakest; and the greater the draught the greater the pressure of the buckle on the trace. For buckles apply to Cornell, Brothers, 269 Pearl Street, New York. THOS. HOLLIS.

**GENUINE EAGLE PLOWS.**

The subscriber is sole Agent in this city for these celebrated plows, and any one else pretending to keep them has only a miserable imitation; the public, therefore, are cautioned to be on their guard against deception. The following brief abstract from the circular of the manufacturers, Messrs. Ruggles, Nourse & Mason, will give some idea of the public estimation of their merits.

In each year, 1842 and 1843, the Agricultural Society of Essex County, Mass., offered premiums for the best plows, and instituted full investigation and trials, which resulted each year, in awarding to Ruggles, Nourse & Mason, the highest premium. The judging Committee for 1843, in their printed Report, say, "our attention was called to the quality of the castings on the plows of Ruggles & Co., their finish and durability. Their appearance is certainly more perfect than anything we have elsewhere seen. The process of chilling the point, the entire edge of the share and flange or base of the landside, gives a permanence and durability to the work that renders it of a decidedly superior character," "and we think there is no hazard in saying, that the value of the parts thus made, is more than doubled by the process."

The following Table shows the number of premiums awarded to competitors contending for the prizes before the several different societies named, and the number awarded to those who used plows made by Ruggles, Nourse, & Mason.

Name of Society.	Year.	No. of prem's offered.	No. of premiums awarded as above.
Essex County, Mass.,	1843	10 premiums,	9 premiums,
do do do	1844	8 do	6 do
do do do	1845	11 do	11 do
Middlesex do do	1843	8 do	5 do
do do do	1844	8 do	5 do
do do do	1845	8 do	6 do
Worster do do	1840	9 do	9 do
do do do	1841	9 do	9 do
do do do	1842	9 do	9 do
do do do	1843	12 do	12 do
do do do	1844	11 do	7 do
do do do	1845	10 do	8 do
Plymouth do do	1844	6 do	6 do
Bristol do do	1845	11 do	7 do
Hamden do do	1844	3 do	2 do
do do do	1845	6 do	3 do
Berkshire do do	1845	8 do	7 do
Barnstable do do	1845	4 do	3 do
Hartford do Conn.,	1845	3 do	3 do
Windham do Vt.,	1845	the highest,	the highest,
Dutchess do N.Y.,	1845	4 do	2 do

It is but just to remark that the competition was as great between the different plow-makers as between the plowmen; and, in most instances, noted, the plows above-named were strongly contested by Prouty & Mears' (so called) "Centre Draught," Martin's imitation of our "Eagle" plows, and that in every case, the first premiums were awarded to plowmen, who performed their work with plows made by Ruggles, Nourse & Mason.

A. B. ALLEN, 187 Water Street, N. Y.

**DAVISON'S PATENT PROCESS FOR CURING MEAT.**

The undersigned is authorized by the patentees to sell patents for the using and sale of Davison's Apparatus for Curing Meats; and preserving timber; and also for the sale of rights for States. The nature of the apparatus may be learned from the article page 28 in this volume of the Agriculturist. By this process, all kinds of meat can be perfectly cured in twelve hours, and in warm weather as well as cold. It leaves all the juices in the meat, and of course it makes a better article; bacon cured in it may be put to smoke in two days. It is just such an article as every planter in the South should have. Application for rights and for single machines may be made to the subscriber. The price of the machines is from \$75 to \$300, according to size.

A. B. ALLEN, 187 Water Street, N. Y.

**PERUVIAN GUANO AT REDUCED PRICES.**

The prices at New York and Baltimore will be uniform, and as follows;

Fixed price two-and-a-half cents per pound, from which the following discounts will be made.

For lots of over 2 tons..... 10 per cent. or 2½ cts. per lb.  
 " 5 tons..... 15 " 2½ do.  
 " 10 tons..... 20 " 2 do.

and a still further discount on larger parcels. The discounts at other places than New York and Baltimore, will be 5 per cent. less than the above, to cover extra charges of transportation.

CAUTION.—This is the only parcel of GENUINE PERUVIAN Guano now in this country, and may be had of the following persons:

SAML. K. GEORGE, Baltimore.  
 W. WOODBRIDGE, Savannah.  
 G. CLEEMANN, Philadelphia.  
 SECCOMB, BARTLETT & Co., Boston.  
 A. B. ALLEN, New York.  
 THOMPSON & CO., Brooklyn.

Agents of the Undersigned.

EDWIN BARTLETT.

Agent of the Peruvian Guano Company.

No. 42 South Street, New York, Jan., 1846.

**SMITH'S PATENT SEPARATING CORN SHELLER.**

For which was awarded by the American Institute, New York, a Silver Medal.

From recent and extended operations in the trials of these machines at the South, as well as the decisions of scientific and reputable individuals from various and remote parts, the proprietors are now in possession of the most conclusive evidence that this machine not only stands unrivalled, but that its arrangement will ever remain the climax of improvement in Corn Shellers. In the further support of which, the following additional facts are respectfully submitted, viz.:—Its structure is simple and compact; of strong and durable materials; is easy of transportation; safe in its operation against accident; is adapted to all the various kinds of corn, whether damp or dry; receives the ears promiscuously from the shovel, basket, or crib; breaks neither the corn nor the cobs; is readily attached to any horse or other power (being simply driven by belt or rope); operates in the double capacity of sheller and separator, doing its work perfectly clean, and at the rate of from one hundred to one hundred and fifty bushels per hour.

In the manufacture of these machines, the parties concerned have spared neither pains nor expense in the establishment of that system which would produce an article of the greatest utility, accompanied with least expense. The machine in its present and improved style is respectfully submitted as evidence of success; and the proprietors only ask of the public a careful investigation, and they will cheerfully abide the result.

In regard to a fixed and uniform price, on which there has been no settled arrangement, the proprietors now have the satisfaction to state that the mode of manufacture has become firmly established, and the price per machine will uniformly be Fifty Dollars.

F. N. SMITH, Patentee.

Samuel Hanna, proprietor for the States of New York and New Jersey, and general agent for the Atlantic States.

The subscriber having become sole manufacturer of the above machine, is now prepared to supply orders, and will forward at the established price. Apply to

SAMUEL HANNA, Valatia, Kinderhook, N. Y.

A. B. ALLEN, Agent, 187 Water Street, N. Y.

T. B. WHEELER, Travelling Agent for the Southern States.

**FASTOLFF RASPBERRY.**

The Subscriber has just received a fresh supply of the above valuable Raspberry, esteemed in England superior to all other varieties. The fruit is very large, of rich flavor, and bears abundantly. They are ready for delivery as follows:

Package containing 25 canes, \$5. Containing 12 canes, \$3.  
 Single canes, 30 cents. These are warranted true to name.

Also for sale, a choice collection of green-house and stove plants.

Orders addressed to the undersigned will receive attention, and from unknown applicants a remittance or satisfactory reference is required.

JACOB R. VALK.

Horticultural Gardens, Flushing, L. I., N. Y., January 1, 1846.

**A SUPERIOR STALLION.**

A thorough-bred stallion for sale, of a fashionable pedigree; five years old; of a blood bay; black legs, mane, and tail, and without white. He stands 15½ hands high, and will weigh 1,100 lbs. He has won several races, and is a superb trotter, going level in his pace. He is perfectly sound; kind in temper; possesses great style, and would have made a capital roadster. He has two crosses in him, of the famous imported Messenger, and may be depended on to get first-rate roadsters. His price is \$400, which is extremely low for him. He would have brought \$1,200 easily three years ago, but his owner having no further use for him is desirous of selling.

Also for sale a road stallion 16 hands high, and four years old, of a bay color and fine style. Price \$400. Apply to

A. B. ALLEN, 187 Water Street.

**LINNÆAN BOTANIC GARDEN AND NURSERY,**

(LATE OF WILLIAM PRINCE, Deceased.)

**FLUSHING, LONG ISLAND, NEAR NEW YORK.**

The New Proprietors of this ancient and celebrated Nursery, known as PRINCE'S, and exclusively designated by the above title for nearly fifty years, offer for sale a more extensive variety of Fruit and Ornamental Trees, Shrubs, Vines, Plants, &c., than can be found in any other nursery in the United States, and the genuineness of which may be depended upon; and they will unremittently endeavor to merit the confidence and patronage of the public, by integrity and liberality in dealing, and moderation in charges.

Descriptive Catalogues, with directions for Planting and Culture, furnished gratis, on application POST-PAID, and orders promptly executed. **WINTER & CO., Proprietors.**

Flushing, L. I., Feb., 1846.

**CHEAP PLOWS FOR THE SOUTH.**

These plows are made in a far superior manner to any of the same kind ever sent from this market. The woods are of well selected white oak, and got out by Patent Machinery, and are all exactly alike, so that if one part wears out, or gets broken, it can be instantly replaced by a duplicate. It is the same also with the iron parts. The whole material of these plows is warranted of a superior kind.

Price of No. 10½ Plow.....	\$2.00
" 11½ do.....	2.25
" Corn Plow.....	2.50
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